SAMSUNG

VIDEO CASSETTE PLAYER

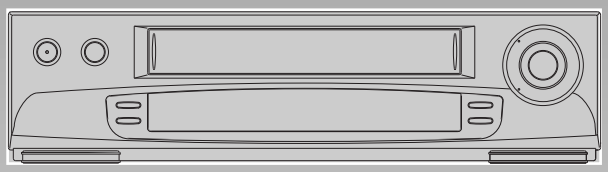
SV-A10G/SP-A10G
SV-A11G/SP-A11G
SVR-17A/SPR-17A
SVR-17B/SPR-17B

VHS
PAL

SERVICE Manual

For mechanical disassembly and adjustment, refer to the "Mechanical Manual" (DX7-R/DX-7RC, DX8-R/DX-8RC ⟶ AC68-20316A).

VIDEO CASSETTE PLAYER



SV-A10G/SP-A10G
SVR-17A/SPR-17A

SV-A11G/SP-A11G
SVR-17B/SPR-17B

CONTENTS

1. Precautions
2. Reference Information
3. Product Specifications
4. Disassembly and Reassembly
5. Alignment and Adjustment
6. Exploded View and Parts List
7. Electrical Parts List
8. Block Diagrams
9. PCB Diagrams
10. Wiring Diagram
11. Schematic Diagrams

© Samsung Electronics Co., Ltd. FEB. 1997

AC68-20327A

1. Precautions

1. Be sure that all of the built-in protective devices are replaced. Restore any missing protective shields.

2. When reinstalling the chassis and its assemblies, be sure to restore all pretective devices, including : control knobs and compartment covers.

3. Make sure that there are no cabinet openings through which people--particularly children --might insert fingers and contact dangerous voltages. Such openings include the spacing between the picture tube and the cabinet mask, excessively wide cabinet ventilation slots, and improperly fitted back covers.

   If the measured resistance is less than 1.0 megohm or greater than 5.2 megohms, an abnormality exists that must be corrected before the unit is returned to the customer.

4. Leakage Current Hot Check (See Fig. 1) :
   Warning : Do not use an isolation transformer during this test. Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI C101.1, *Leakage Current for Appliances*), and Underwriters Laboratories (*UL Publication UL1410, 59.7*).

5. With the unit completely reassembled, plug the AC line cord directly the power outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known erath ground (metal water pipe, conduit, etc.) and all exposed metal parts, including : antennas, handle brackets, metal cabinets, screwheads and control shafts. The current measured should not exceed 0.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat the test.

6. X-ray Limits :
   The picture tube is designed to prohibit X-ray emissions. To ensure continued X-ray protection, replace the picture tube only with one that is the same type as the original.

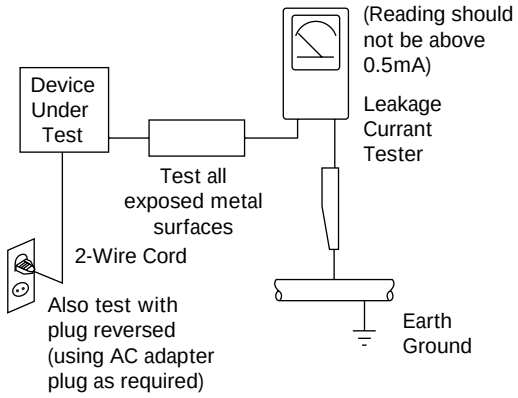

(Reading should not be above 0.5mA)
Device Under Test
Leakage Currant Tester
Test all exposed metal surfaces
2-Wire Cord
Also test with plug reversed (using AC adapter plug as required)
Earth Ground

Fig. 1-1 AC Leakage Test

7. Antenna Cold Check :
   With the unit's AC plug disconnected from the AC source, connect an electrical jumper across the two AC prongs. Connect one lead of the ohmmeter to an AC prong.
   Connect the other lead to the coaxial connector.

8. High Voltage Limit :
   High voltage must be measured each time servicing is done on the B+, horizontal deflection or high voltage circuits.

   Heed the high voltage limits. These include the *X-ray protection Specifications Label*, and the *Product Safety and X-ray Warning Note* on the service data schematic.

9. Some semiconductor ("solid state") devices are easily damaged by static electricity.
   Such components are called Electrostatically Sensitive Devices (ESDs); examples include integrated circuits and some field-effect transistors. The following techniques will reduce the occurrence of component damage caused by static electricity.

10. Immediately before handling sny semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging Wrist-strap device. (Be sure to remove it prior to applying power--this is an electric shock precaution.)

11. High voltage is maintained within specified limits by close-tolerance, safety-related components and adjustments. If the high voltage exceeds the specified limits, check each of the special components.

12. Design Alteration Warning :
    Never alter or add to the mechanical or electrical design of this unit. Example : Do not add auxiliary audio or video connectors. Such alterations might create a safety hazard. Also, any design changes or additions will void the manufacturer's warranty.

13. Hot Chassis Warning :
    Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord. If an isolation transformer is not used, these units may be safely serviced only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC source.

    To confirm that the AC power plug is inserted correctly, do the following : Using an AC voltmeter, measure the voltage between the chassis and a known earth ground. If the reading is greater than 1.0V, remove the AC power plug, reverse its polarity and reinsert. Re-measure the voltage between the chassis and ground.

14. Some TV chassis are designed to operate with 85 volts AC between chassis and ground, *regardless of the AC plug polarity*. These units can be safely serviced *only* if an isolation transformer inserted between the receiver and the power source.

15. Never defeat any of the B+ voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.

16. Always connect a test instrument's ground lead to the instrument chassis ground *before* connecting the positive lead; always remove the instrument's ground lead last.

17. Observe the original lead dress, especially near the following areas : Antenna wiring, sharp edges, and especially the AC and high voltage power supplies. Always inspect for pinched, out-of-place, or frayed wiring. Do not change the spacing between components and the printed circuit board. Check the AC power cord for damage. Make sure that leads and components do not touch thermally hot parts.

18. Picture Tube Implosion Warning :
    The picture tube in this receiver employs "integral implosion" protection. To ensure continued implosion protection, make sure that the replacement picture tube is the same as the original.

19. Do not remove, install or handle the picture tube without first putting on shatterproof goggles equipped with side shields. Never handle the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; do not try to remove such "permanently attached" yokes from the picture tube.

20. Product Safety Notice :
    Some electrical and mechanical parts have special safety-related characteristics which might not be obvious from visual inspection. These safety features and the protection they give might be lost if the replacement component differs from the original--even if the replacement is rated for higher voltage, wattage, etc.

    Components that are critical for safety are indicated in the circuit diagram by shading, (or).
    Use replacement components that have the same ratings, especially for flame resistance and dielectric strength specifications. A replacement part that does not have the same safety characteristics as the original might create shock, fire or other hazards.

2. Reference Information

2-1 Servicing Jigs and Special Tools

2-1-1 Servicing guide

1. For this VCP chassis, the program switch and the sensors (start/end/reel) are located on the main PCB, not on the deck ass'y.

2. As long as the deck ass'y is connected to the main PCB, all repairs are possible.
   Important : In order to repair the main PCB without the deck ass'y connected, the X-5 chassis jig should be used.

3. To emulate the function of the sensors, plug the power cord to outlet with pressing SW711 on the function PCB.

4. The X-5 chassis jig can be used for the following :

1) When repairing or confirming the operation of the deck ass'y.
2) When replacing or repairing the components located under the deck ass'y.
3) When repairing the function PCB.

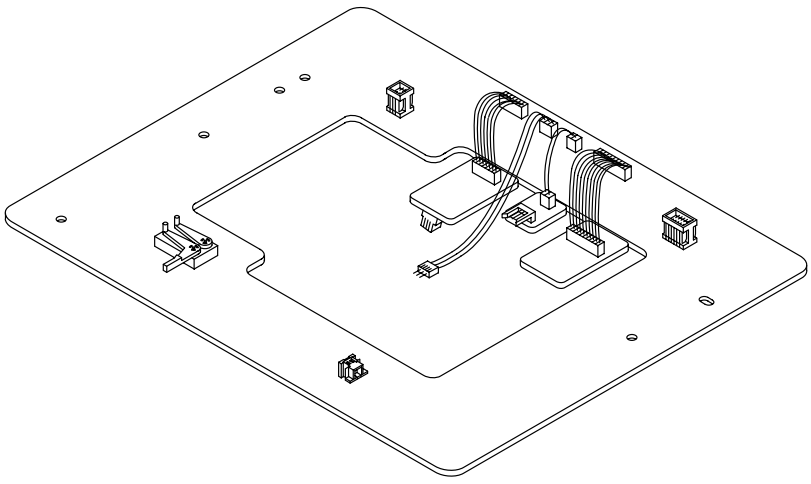
5. The X-5 chassis jig can not be used for the following :

1) Repairing defects in the video section.
2) Repairing defects in the audio section.
3) If the defect is related to tape speed.

Note : Accurate repair may not be possible due to external noise between the deck ass'y and main PCB.

2-1-2 Servicing Jig

Jig Item	Part No.	Use
X-5 Chassis Jig	68140-500-013	Connects the deck ass'y to the main PCB connecting cable.

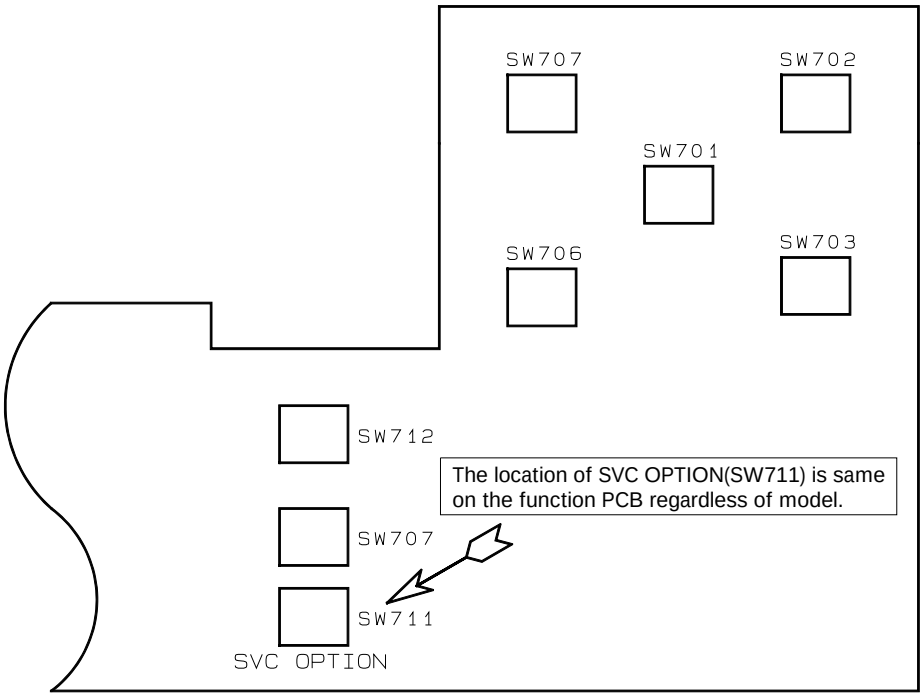


2-1-4 How to Connect X-5 chassis jig

1. Unplug the power cord from AC outlet.

2. Remove the deck ass'y from main PCB (See Page 4-4 of service manual).

3. To emulate the function of the sensors, plug the power cord to outlet with pressing SW711 on the function PCB (See diagram below).



Function (Component side)

Note : After completing repairs, unplug and plug the power cord in order to reset.

4. Insert wafers of drum motor, capstan motor and loading motor on X-5 chassis jig into each of the connectors of deck ass'y, and then secure with three screws.

5. Solder the 3 leads of the jig cable to "**SERVICE OPTION**" on the main PCB.

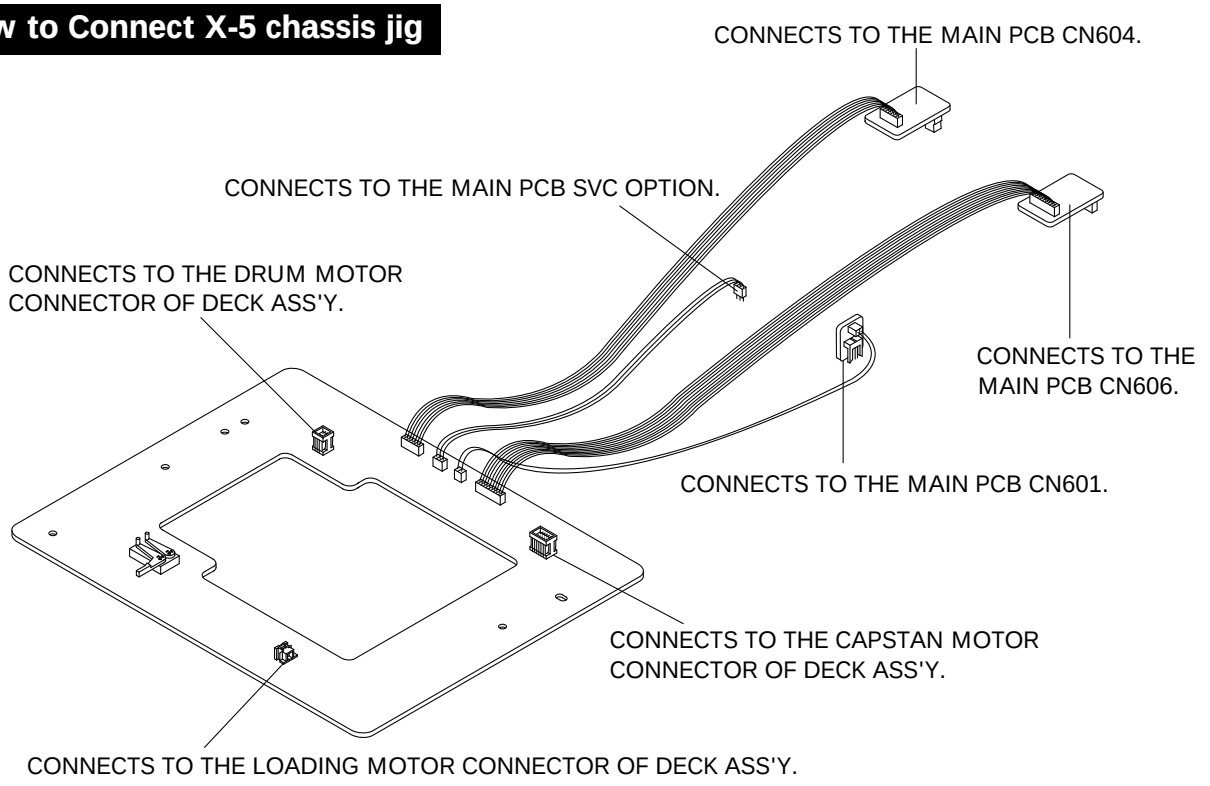
6. Apply power to the function PCB.

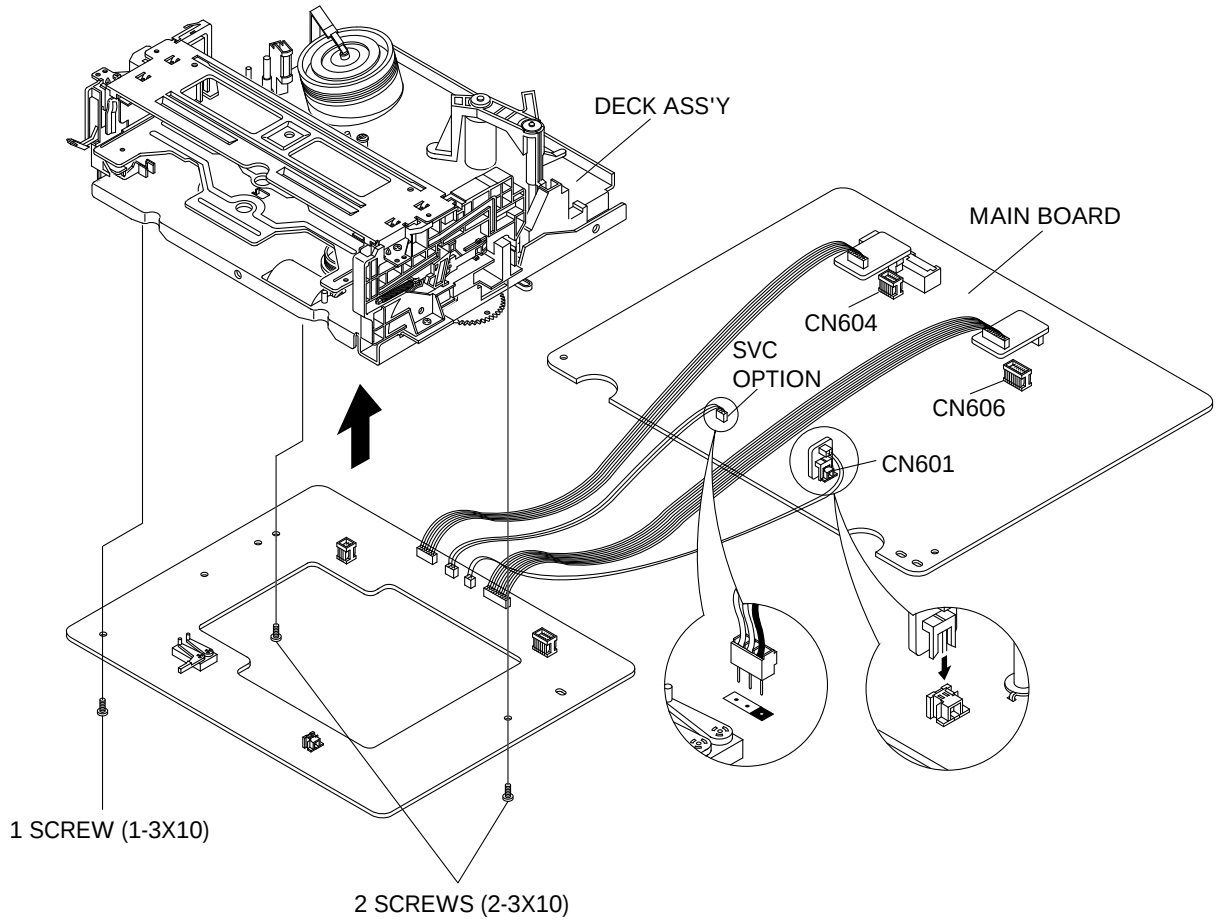
7. Insert a test tape into the housing ass'y.

8. Simultaneously touch the start and end sensor LEDs on the PCB, so that the tape loads automatically. After the tape is loaded, all of the function buttons on the function PCB can be used.

9. If the test tape is ejected while the jig is in use, attempt to re-load the tape by simultaneously touching the start and end sensor LEDs.

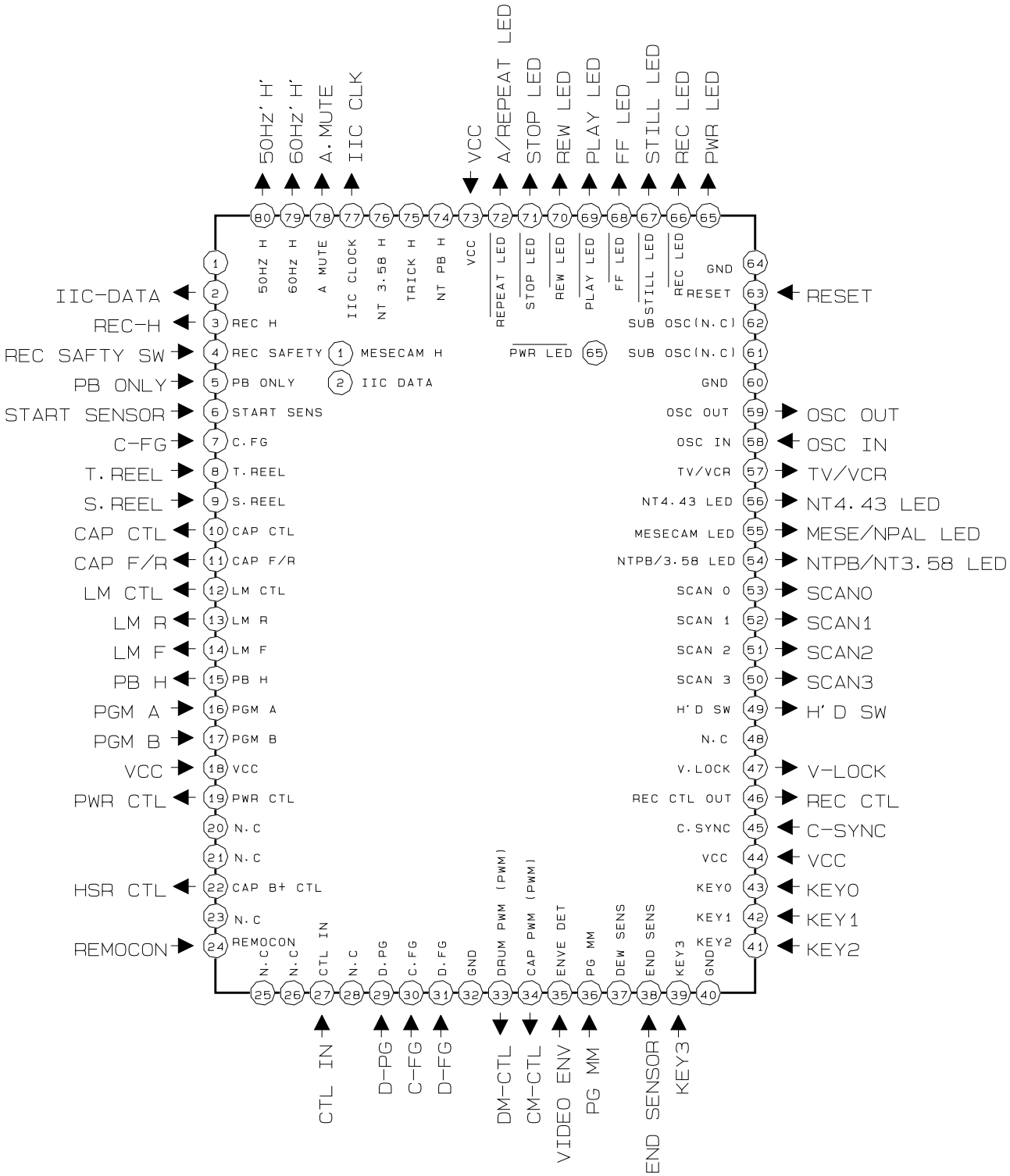
How to Connect X-5 chassis jig


CONNECTS TO THE MAIN PCB CN604.
CONNECTS TO THE MAIN PCB SVC OPTION.
CONNECTS TO THE DRUM MOTOR CONNECTOR OF DECK ASS'Y.
CONNECTS TO THE MAIN PCB CN606.
CONNECTS TO THE MAIN PCB CN601.
CONNECTS TO THE CAPSTAN MOTOR CONNECTOR OF DECK ASS'Y.
CONNECTS TO THE LOADING MOTOR CONNECTOR OF DECK ASS'Y.

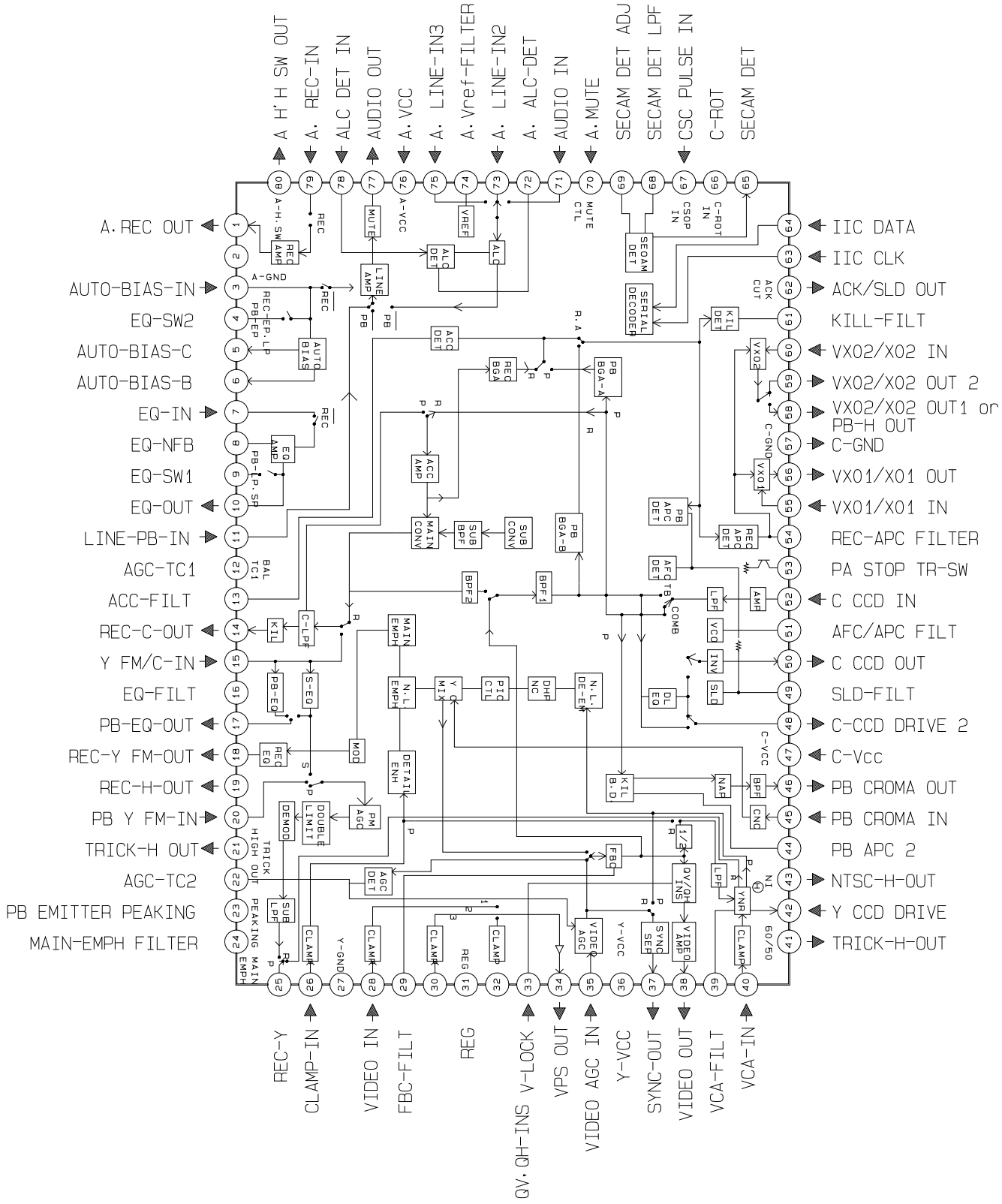


2-2 IC Blocks

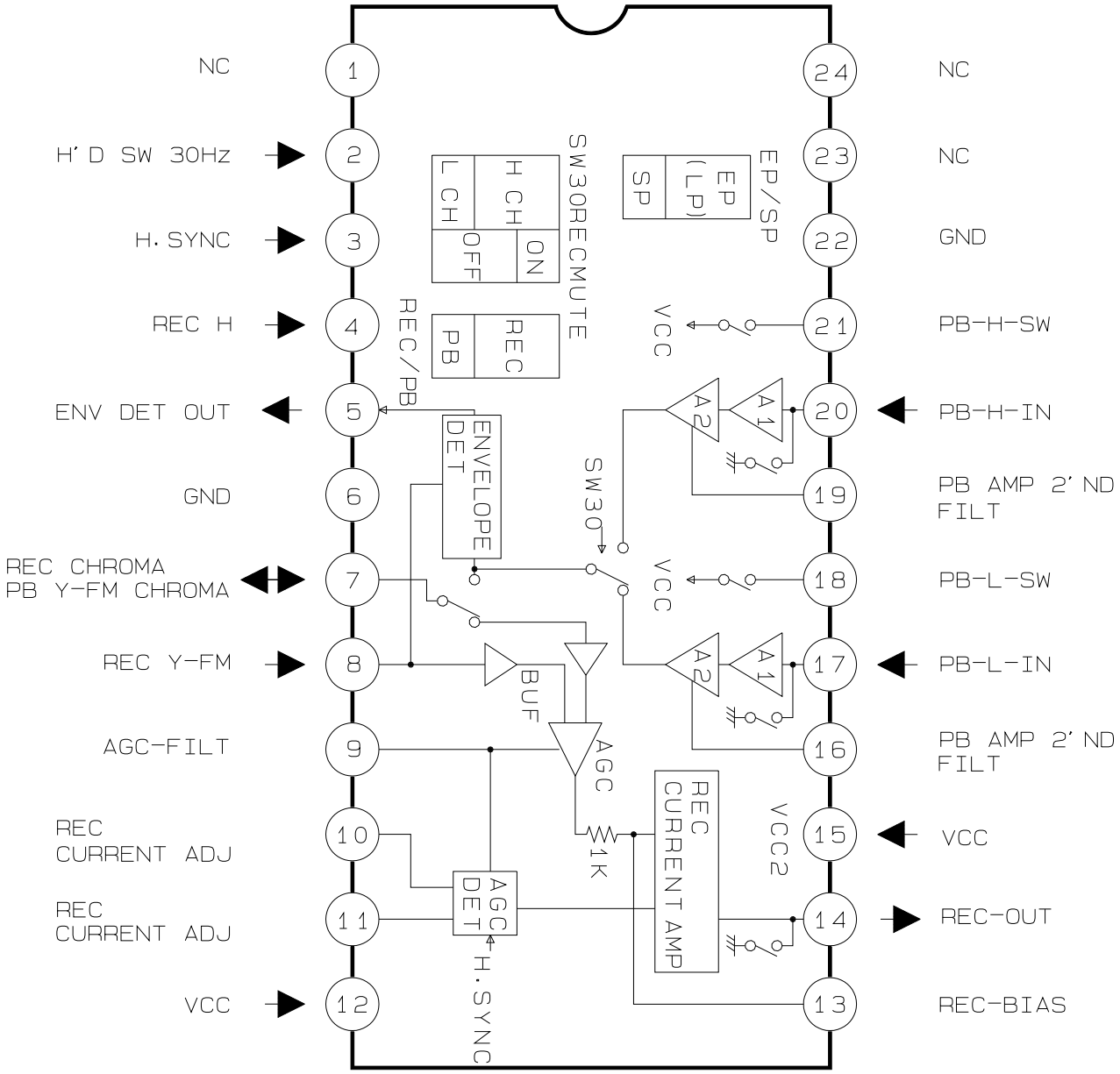
2-2-1 IC601 (KS88C8016)



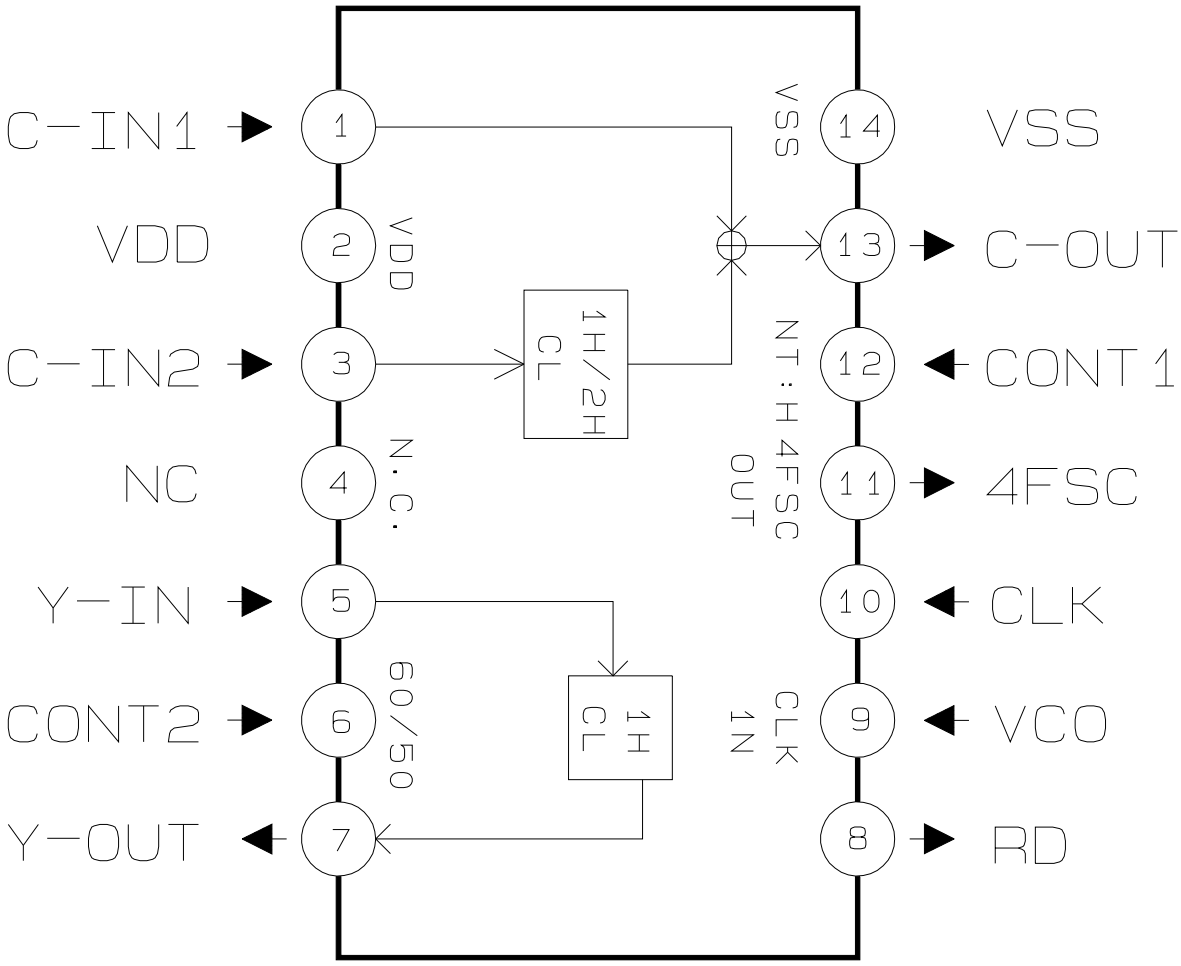
2-2-2 IC301 (SS11501M)



2-2-3 IC302 (LA7411)



2-2-4 IC303 (SS23378M)



MEMO

3. Product Specifications and Comparison Chart

3-1 Product Specifications

Design and specifications are subject to change without notice.

Operation	Description
Format	VHS PAL standard
Video Recording System	2 Rotary Heads, Helical Scanning System Luminance : FM azimuth recording Color : Down converted subcarrier phase shifted
Television System	CCIR Standard G, K
Color System	PAL, MESECAM, NT 4.43, NT PB (NT 3.58 REC)
Tape Width	12.65 mm (1/2 inch)
Tape Speed	SP : (PAL) 23.39 mm/sec, (NTSC) 33.35 mm/sec
Record/Playback Time	SP : 4 hours (E-240 Tape)
F.F/REW Time	100 sec ~ 4 min with E-180
Heads	Video : 2 Rotary Heads Audio/Control : 1 stationary head Erase : 1 full track erase head
VIDEO	
Input Output Signal-to-Noise Ratio Horizontal Resolution	0.5 to 2.0 Vp-p : 75 ohm unbalanced 1.0 Vp-p : 75 ohm unbalanced Better than 43 dB (SP) More than 240 lines (SP)
Audio	
Input Output Signal-to-Noise Ratio Frequency Response	Line : -8 dBm, 47 Kohm unbalanced Line : -8 ± 3 dBm, 1.5 Kohm unbalanced More than 39dB 100Hz ~ 8KHz(SP)
Output Channel	Channels 30 ~ 39 (preset CH 36)
Power Requirement	AC 100 ~ 240V 50/60Hz, DC 12V (CAR BATTERY ONLY)
Power Consumption	Approx. 17 watts
Operation Temperature	41°F-104°F (5°C-40°C)
Operation Humidity	10%-75%
Weight	4.0 Kg
Dimensions (W x H x D)	360 x 92 x 309 mm

3-2 Comparison Chart

FUNCTION / MODEL	LINE RECORD	REMARK
SV-A10G	O	
SV-A11G	O	
SP-A10G	X	
SP-A11G	X	
SVR-17A	O	
SVR-17B	O	
SPR-17A	X	
SPR-17B	X	

4. Disassembly and Reassembly

4-1 Cabinet Assembly

Note : Disassemble in the order shown.
Reassemble in reverse order.

4-1-1 Top Cabinet removal

1. Remove 5 screws and slide the top cabinet to the rear to remove.

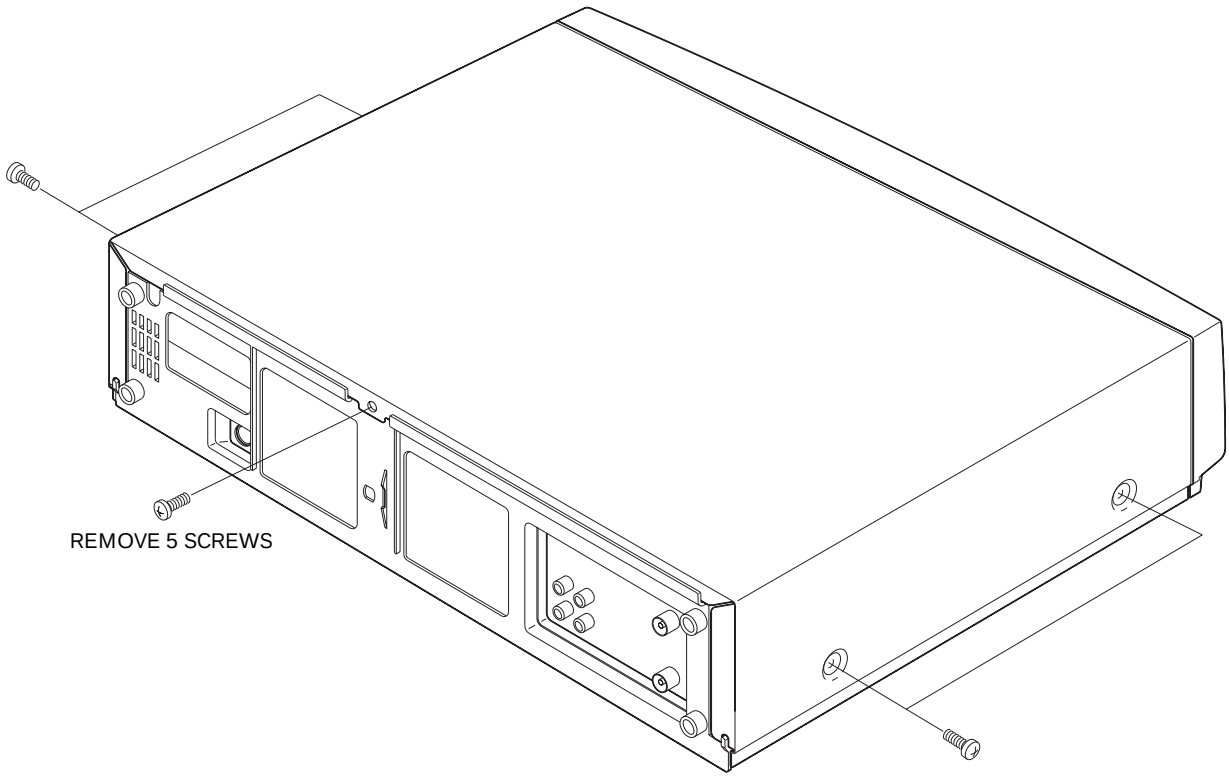
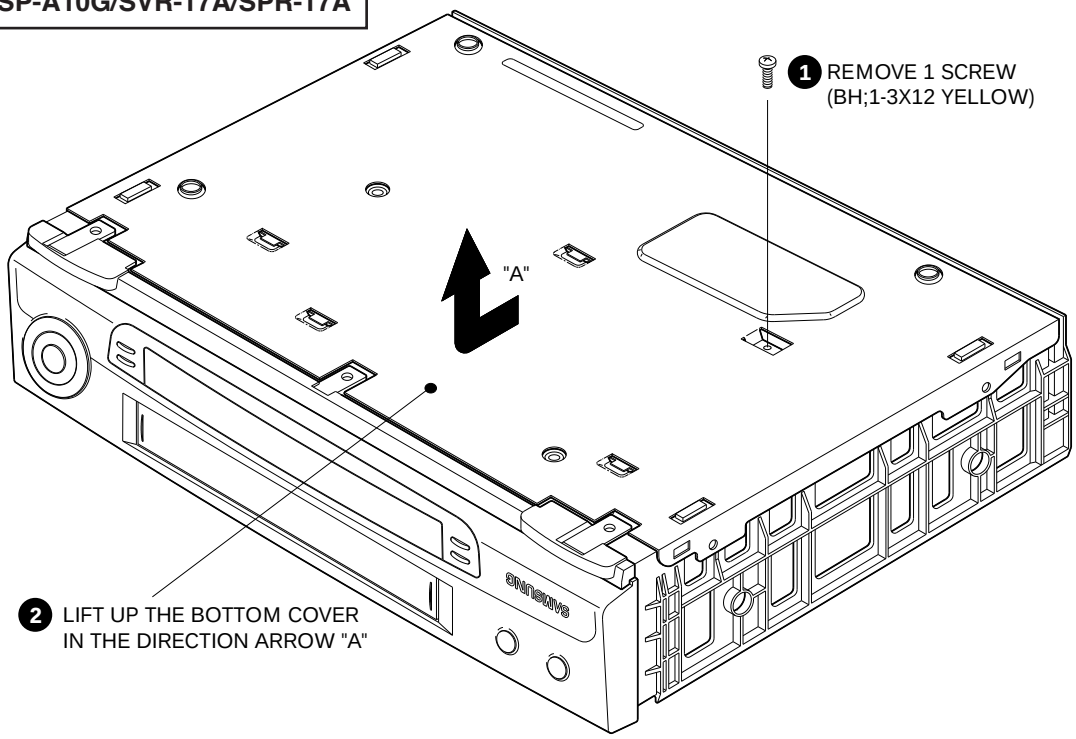


Fig. 4-1 Top Cabinet removal

4-1-2 Bottom cover removal

1. Remove 1 screw.
2. Lift up the bottom cover toward arrow "A".

SV-A10G/SP-A10G/SVR-17A/SPR-17A



SV-A11G/SP-A11G/SVR-17B/SPR-17B

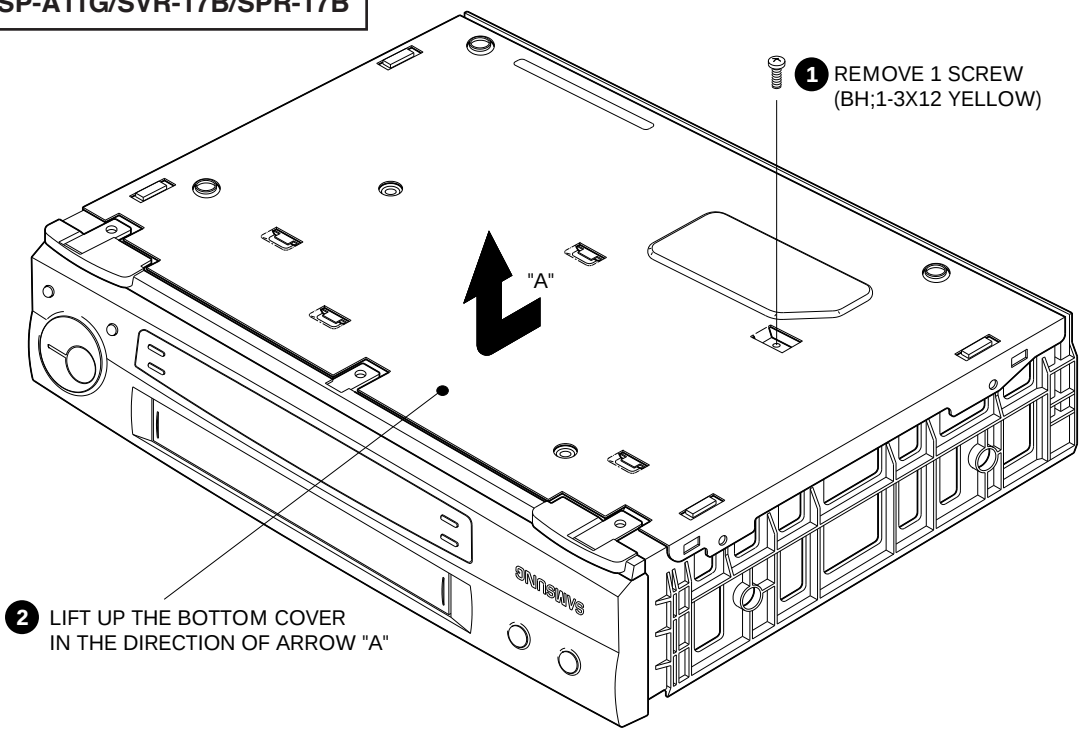
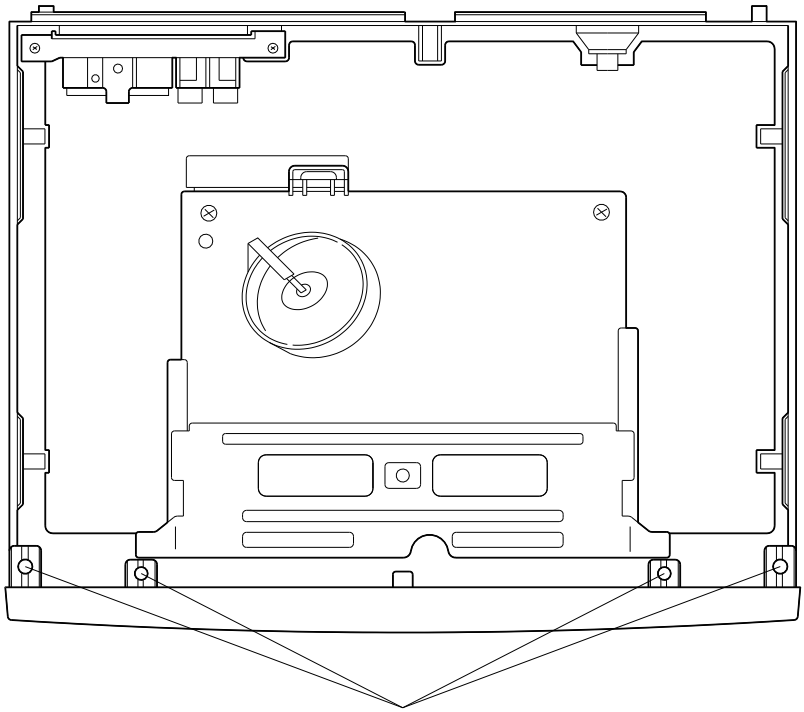


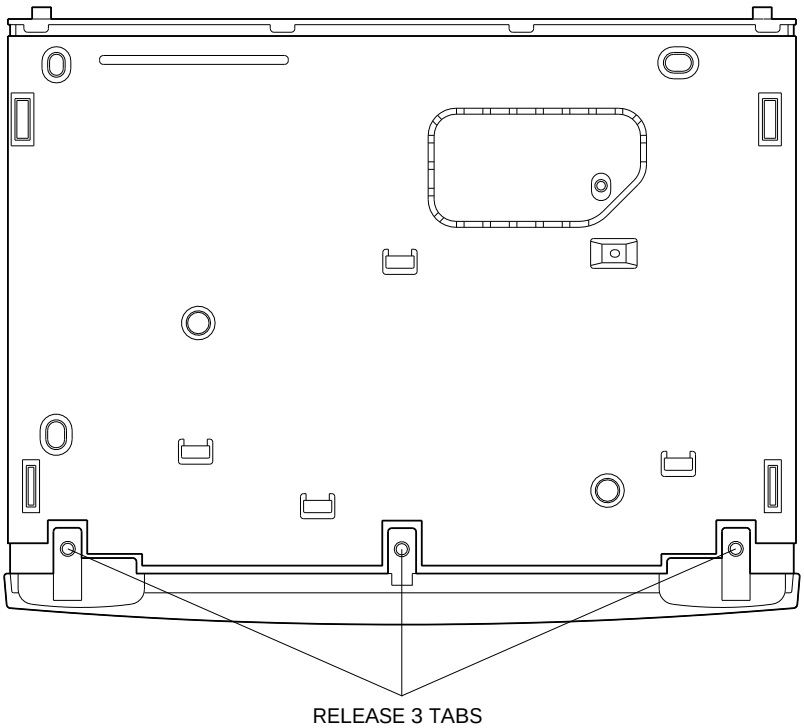
Fig. 4-2 Bottom Cover Removal

4-1-3 Ass'y Front Panel removal

1. Remove the knob-shuttle.
2. Release 4 hooks on the top side and 3 hooks on the bottom side and then, pull the ass'y front panel to remove.



(Top view)



(Bottom view)

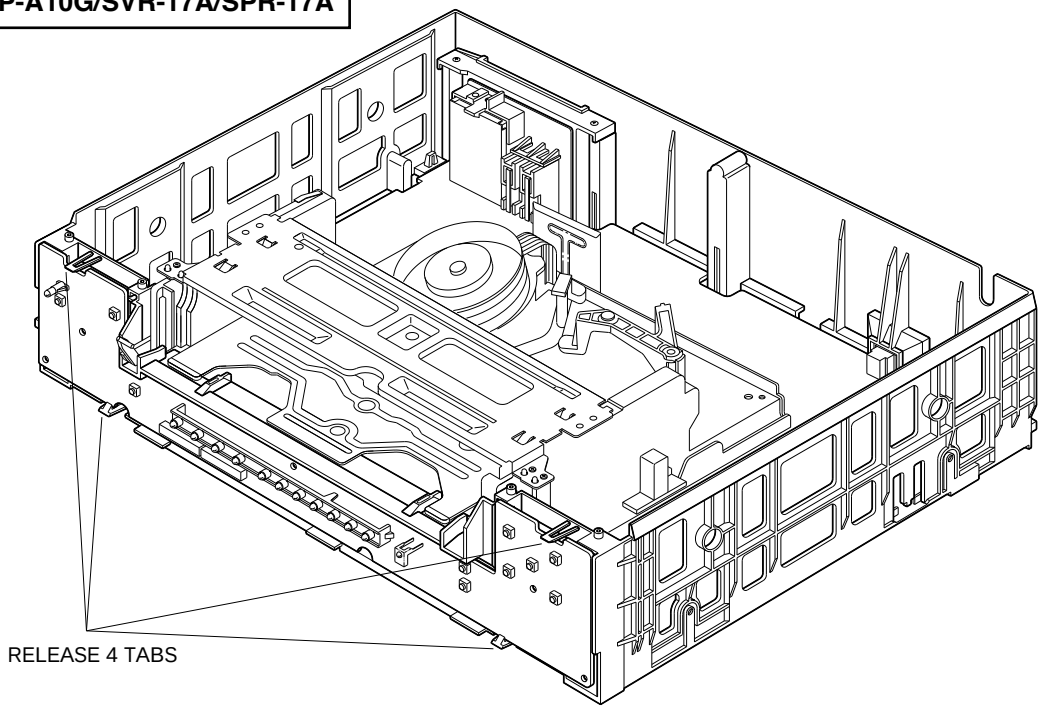
Fig. 4-3 Ass'y Front Panel removal

4-1-4 Ass'y Function removal

1. Release 5 hooks and remove the ass'y function.

Note : Take extreme care not to damage the PCB when removing it.

SV-A10G/SP-A10G/SVR-17A/SPR-17A



SV-A11G/SP-A11G/SVR-17B/SPR-17B

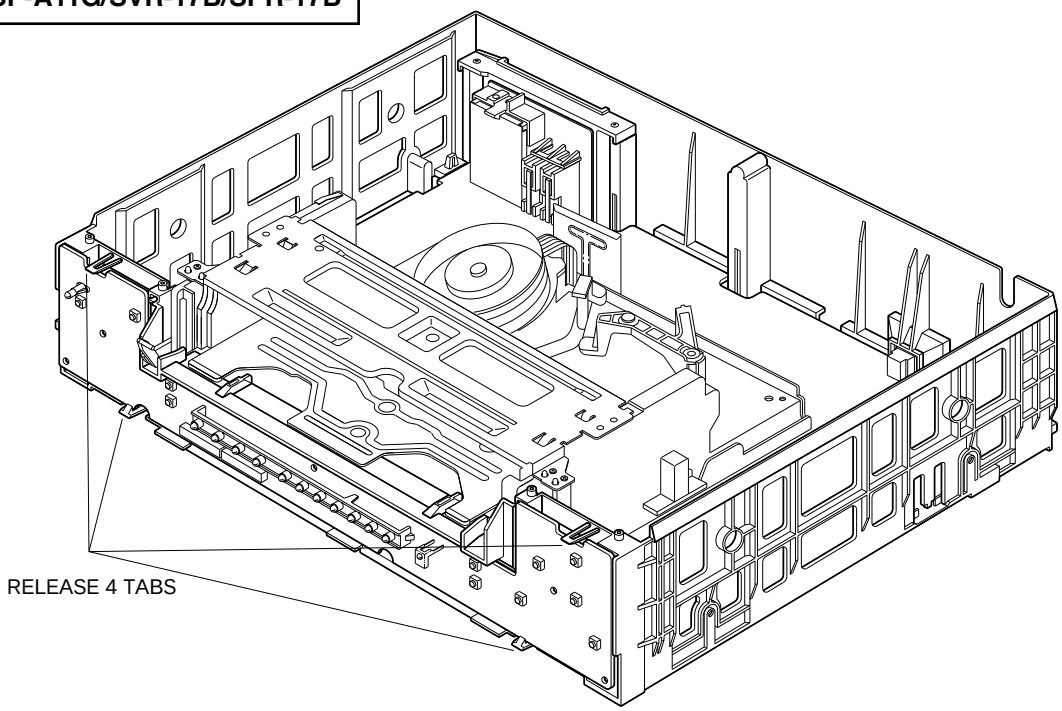


Fig. 4-4 Ass'y Function Removal

4-1-5 Chassis Removal

1. Remove 2 screws holding the frame.
2. Remove 2 screws holding the connector board ass'y.
3. Remove 2 screws holding the housing ass'y.
4. Remove 2 screws holding the ass'y full deck.
5. Release 2 hooks holding the ass'y main.
6. Lift the ass'y full deck up.
7. Lift the ass'y main up to remove.

Note : 1. When removing chassis, take extreme care not to damage the main PCB front.
2. When reinstalling the deck on the main PCB, take extreme care not to damage the sensor.

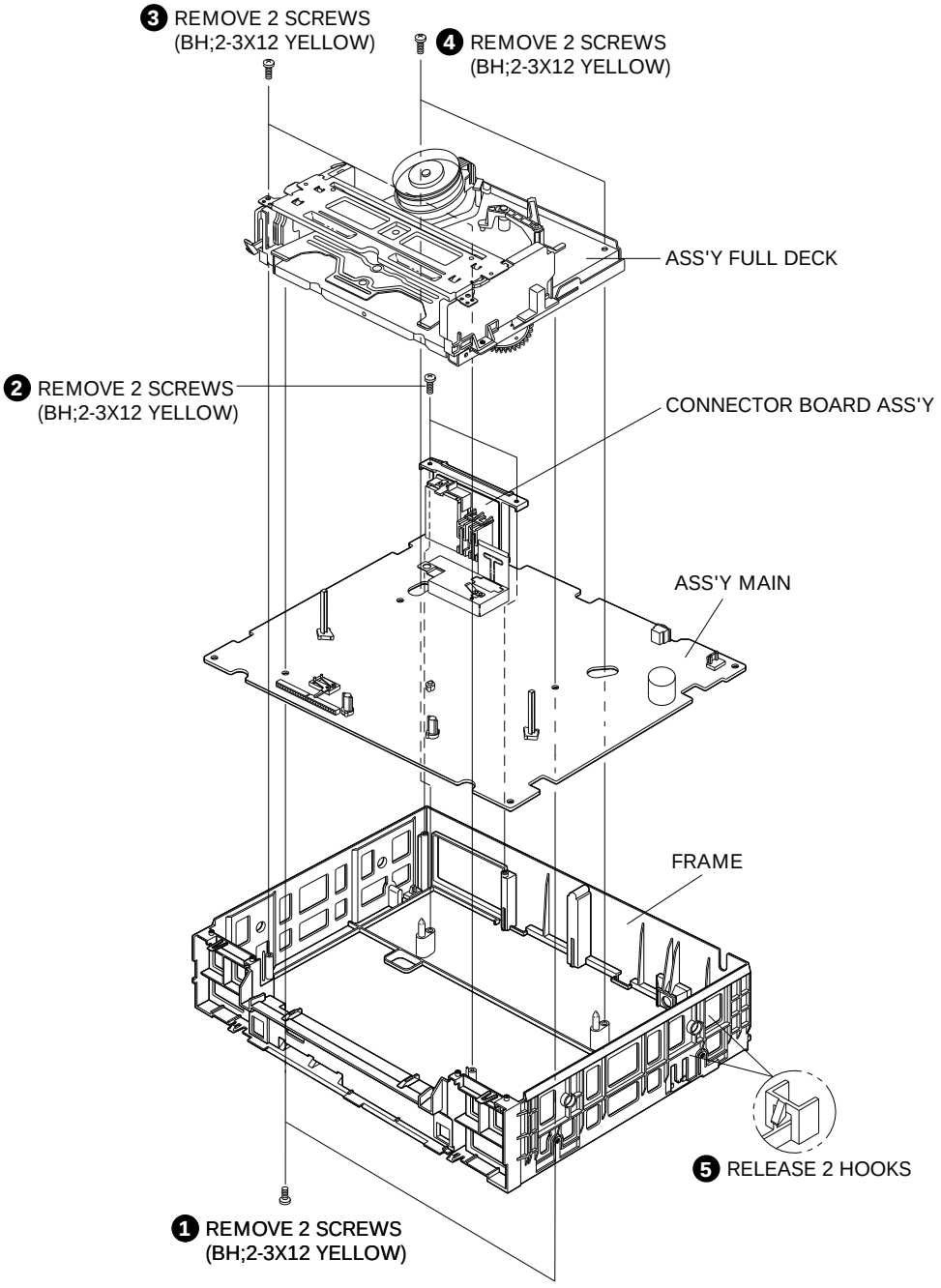


Fig. 4-5 Chassis Removal

4-2 Circuit Board Locations

SV-A10G/SP-A10G/SVR-17A/SPR-17A

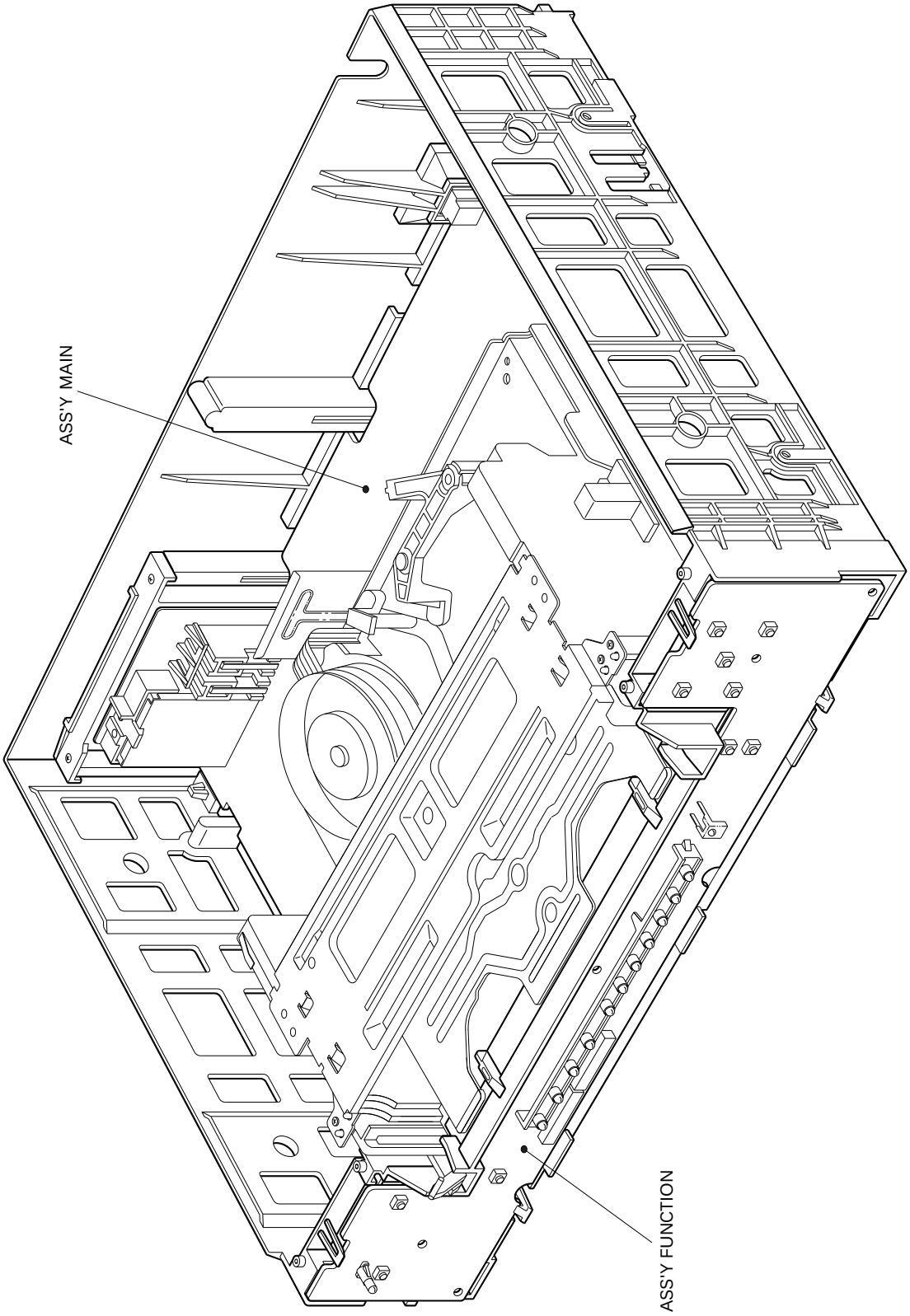


Fig. 4-6 Circuit Board Locations (SV-A10G/SP-A10G)

SV-A11G/SP-A11G/SVR-17B/SPR-17B

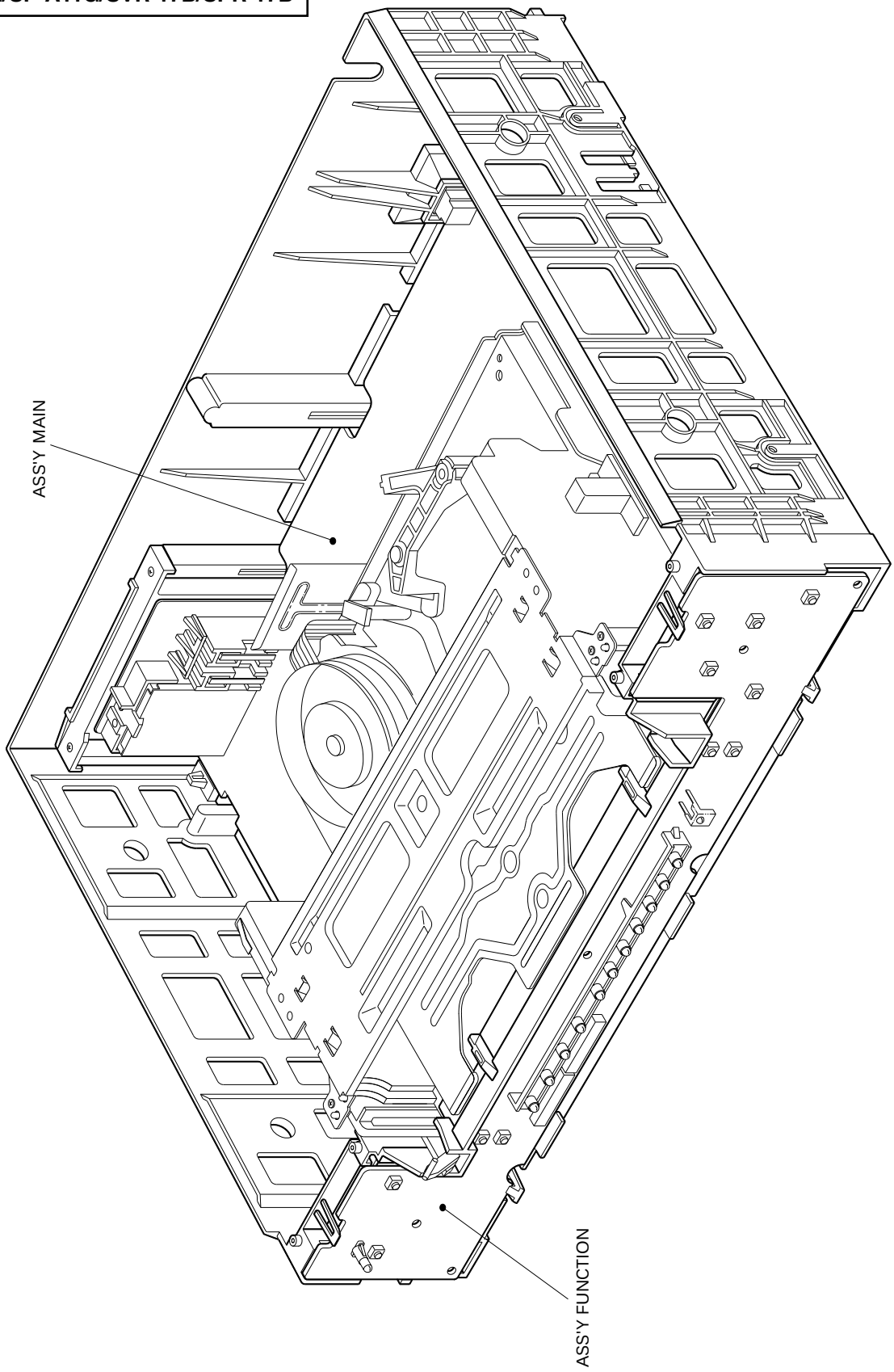


Fig. 4-6 Circuit Board Locations (SV-A11G/SP-A11G)

MEMO

5. Alignment and Adjustment

5-1 Mechanical Adjustment

Reference :
For other mechanical adjustments except A/C Head position (X-point) adjustment, refer to the mechanical manual (DX7-R/DX7-RC/DX8-R/DX8-RC, AC68-20316A).

Test point : TP05 (Envelope) TP04 (H'D S/W -Trigger) TP03 (CTL Pulse) TP06 (Audio out)	Test tape : PAL Color bar Mono scope Blank tape (E-240)

5-1-1 A/C Head Point (X-point) Adjustment

1. Playback the mono scope alignment tape.
2. Connect CH-1 scope probe to TP03 and CH-2 scope probe to TP04. And then, trigger head switching pulse.
3. Set tracking preset to 1msec using the "**Tracking**" button ▲ / ▼ of remote control. (Refer to Fig. 1 and 2)
4. Connect CH-1 scope probe to TP05 and the CH-2 to "H'D S/W" trigger on CH-1.
5. Insert the adjusting driver(+) into X-point adjusting gear. Adjust the driver in either direction for maximum envelope waveform.

Note : Since the adjusting gear unit may be damaged, do not adjust by force when adjusting the X-point using the adjusting driver(+). After turn the X-point adjusting screw(D) counterclockwise a little, perform the adjustment. After adjustment is completed, tighten the screw. (Refer to Fig. 3)

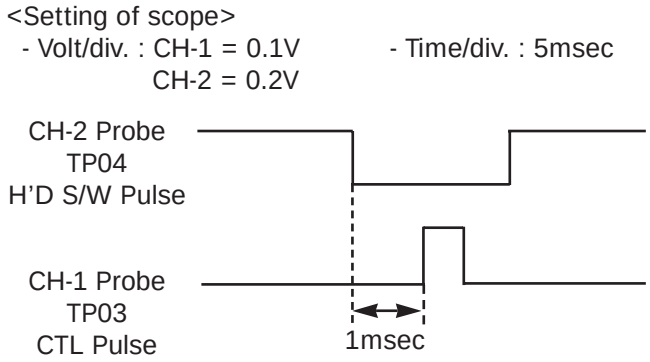


Fig. 5-1 Tracking preset adjustment

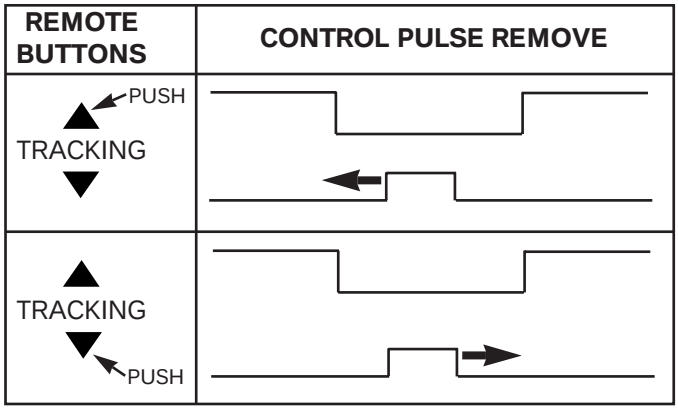


Fig. 5-2 Control pulse adjustment

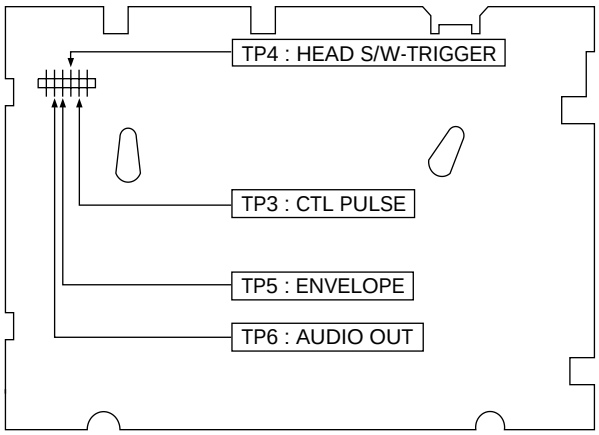


Fig. 5-3 PCB Layout

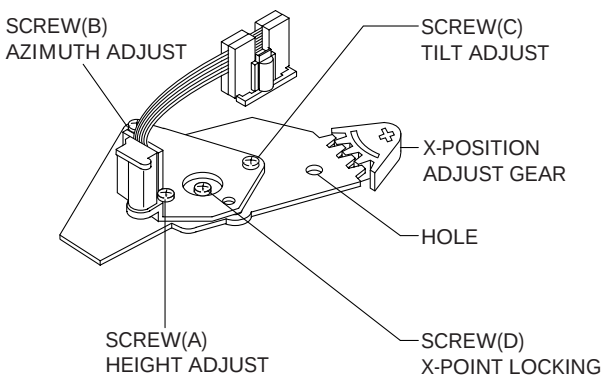


Fig. 5-4 Location of A/C Head adjustment screw

5-2 Electrical Adjustment

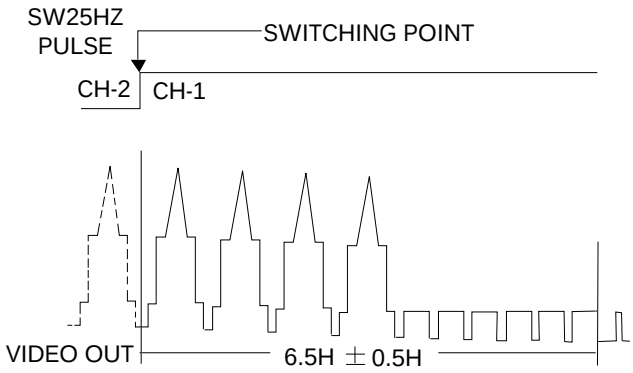
Step	Adjustment Item
1. Mode and input signal/ alignment tape 2. Test point and ADJ. part 3. Result and Remarks	

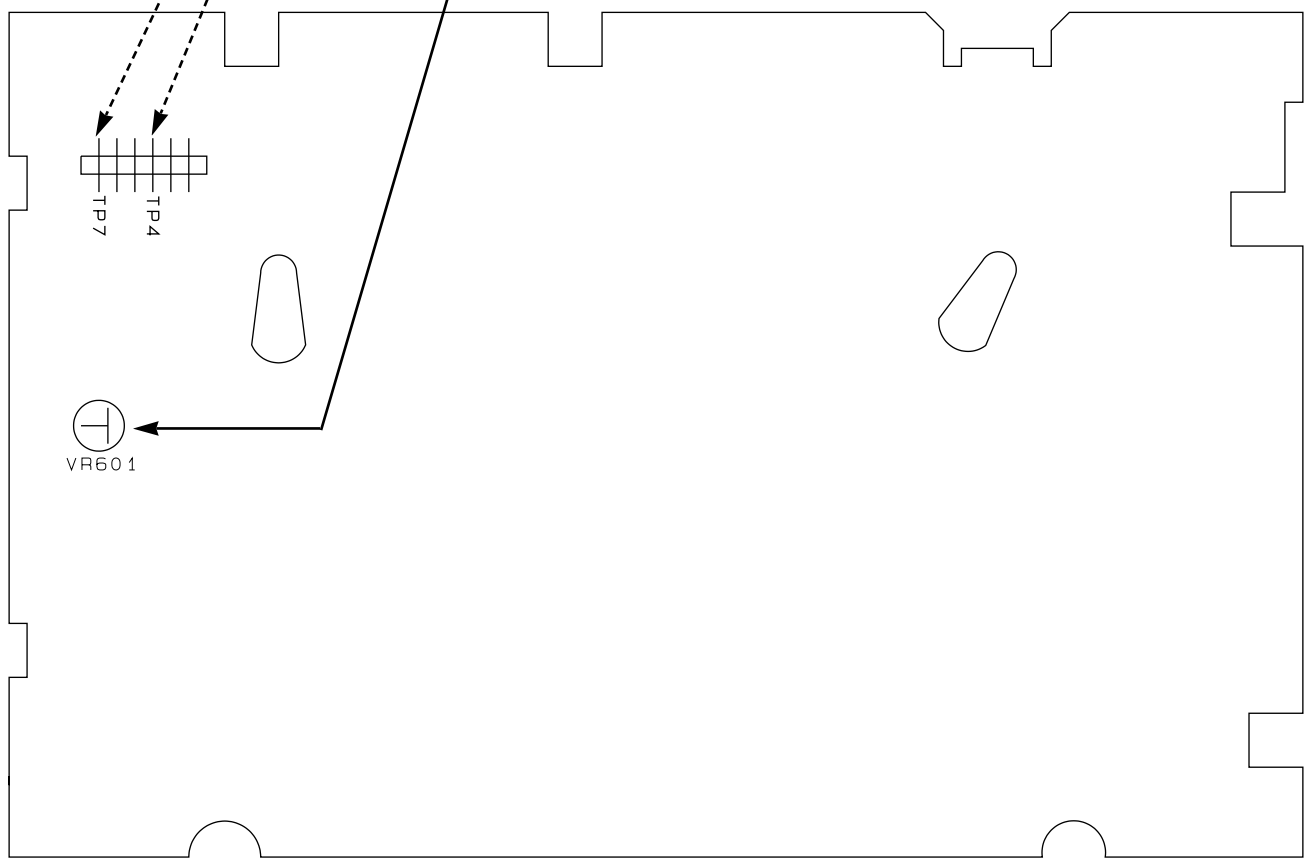
ADJ. point

Test point

5-2-1 Head switching point

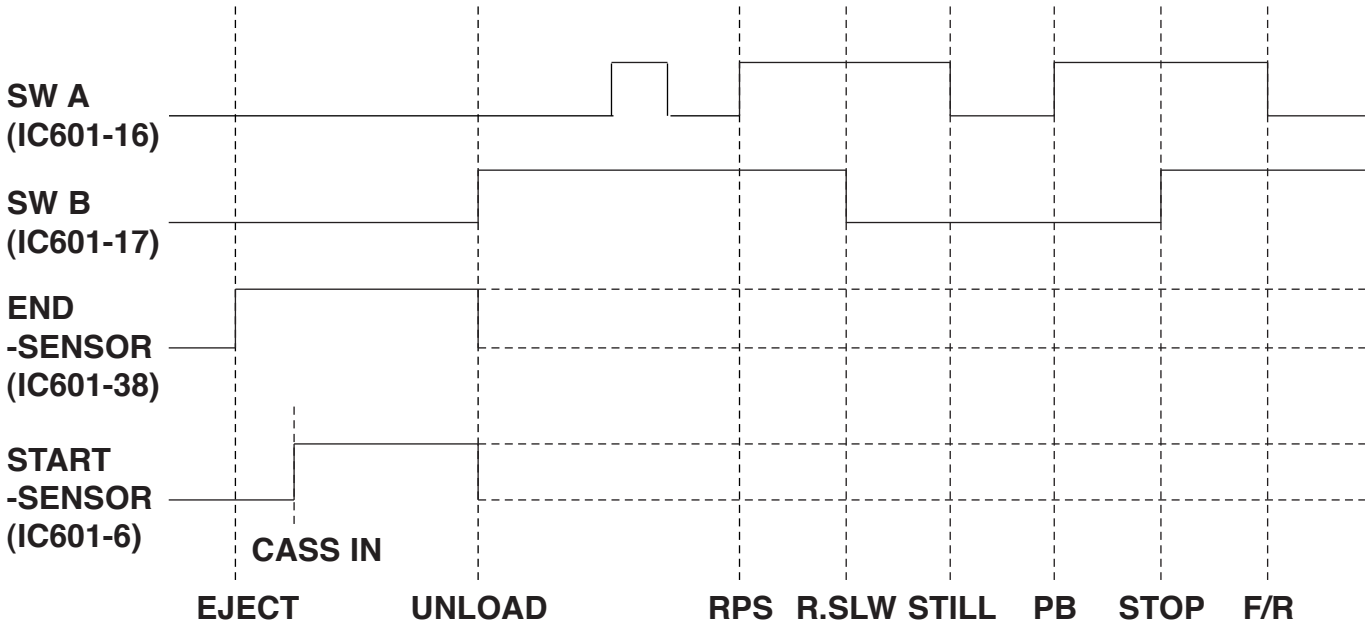
1. "PB", Alignment tape color bars.
2. TP4 (H'D S/W), TP7(Video out) and VR601.
3. Connect an oscilloscope's CH-1 to TP4 for triggering and CH-2 to TP7.
4. Adjust VR601 so that the head switching point is positioned 6.5 ± 0.5H from the V-SYNC left edge as shown.





(Main PCB - Component Side)

5-3 Timing Chart of Program S/W



POSITION	PROGRAM S/W (SW601)				ACTION MODE
	E/S	E/S	E/S	E/S	
EJECT	L	L	L	L	EJECT
CASSETTE IN	H	L H	L	L	CASSETTE IN
UNLOAD	-	-	L	L H	UNLOAD
R. PS	-	-	L H	H	R. PS, Z-R. PS
R. SLOW	-	-	H	H L	PINCH ROLLER OFF POSITION
STILL	-	-	H L	L	STILL
PLAY	-	-	L H	L	PB, T-STOP, REC, PAUSE, F. PS, Z-FPS
STOP	-	-	H	L H	STOP, POWER OFF
FF/REW	-	-	H L	H	FF, REW

MEMO

6. Exploded View and Parts List

Page

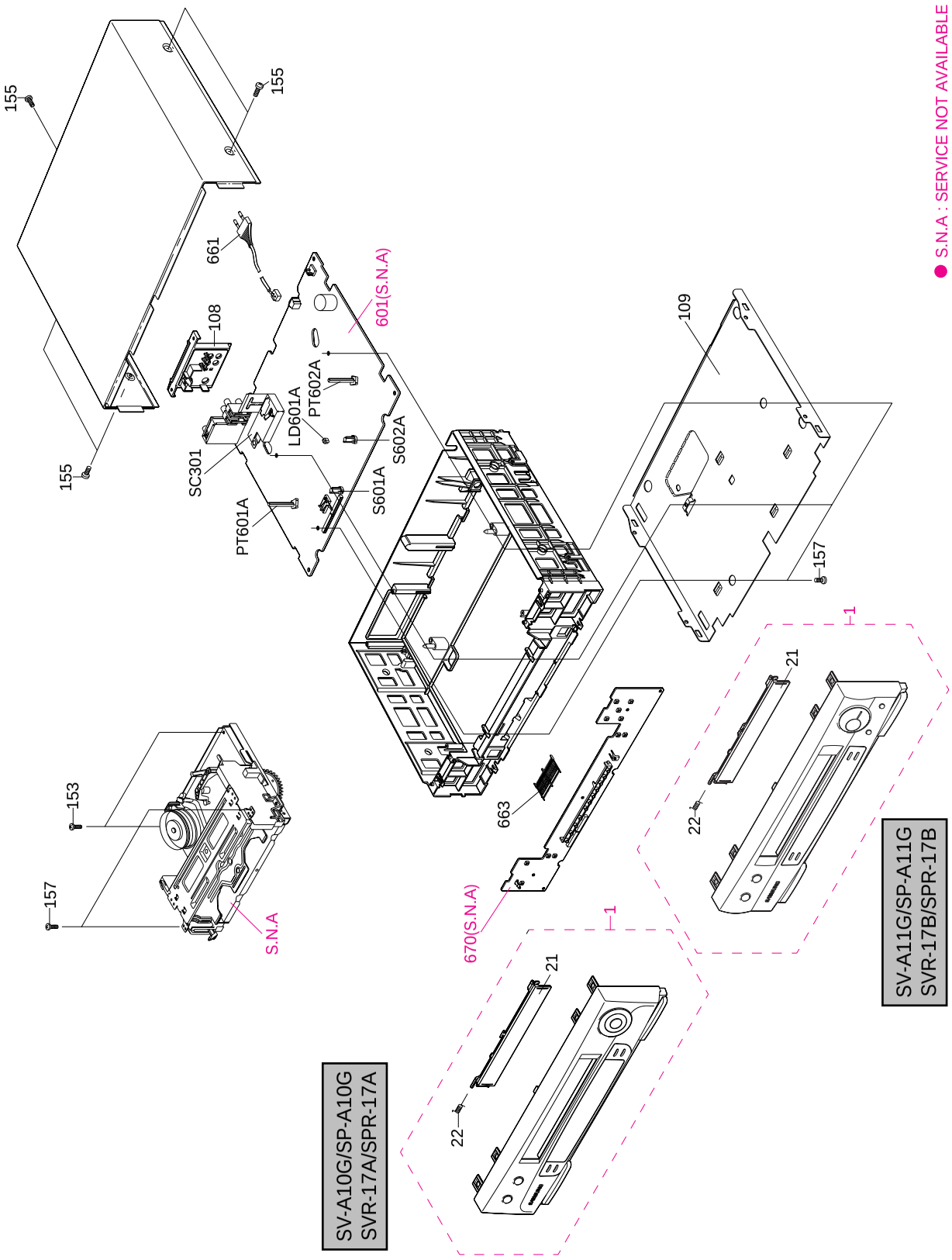
6-1 Cabinet Assembly - 6-2

6-2 Mechanical Parts (Top Side) - - - - - - - - - - - - - - - - - 6-4

6-3 Mechanical Parts (Bottom Side) - - - - - - - - - - - - - 6-6

6-4 Housing Assembly - 6-8

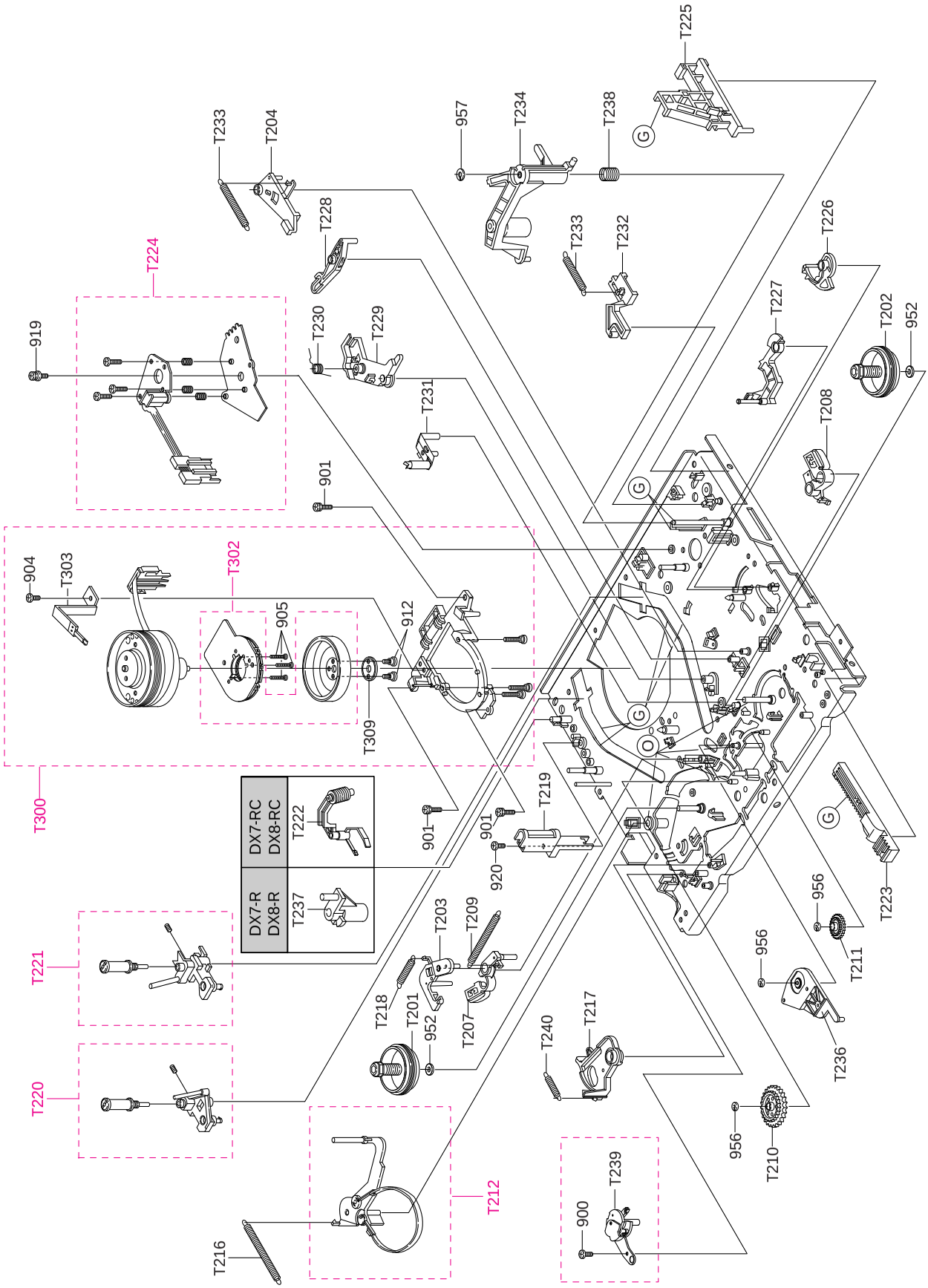
6-1 Cabinet Assembly



Loc. No	New Part No	Description and Specification	Remark
-	DO NOT ORDER	ASSY-FULL DECK (DX7-R)	(S.N.A)
1	AC98-11210P	ASSY-PANEL FRONT;SV-A10G/CIS,SVR-17A	(TSEC LOCAL)
21	AC64-50888B	DOOR-CASSETTE;-,ABS,94HB,-,-,-,-,SV-A10G/CIS,SVR-17A	(TSEC LOCAL)
22	AC61-62003A	SPRING;-,SUS304,(GE/RCA),-,-,-,-	(TSEC LOCAL)
108	AC61-12265A	CONNECTOR-BOARD(ASSY;HIPS94,HB,-,-,-,-,-,-,SV-11	(TSEC LOCAL)
109	AC63-30078A	COVER-BOTTOM;SECC,-,T0.5,NTR,-,-,SV-160X,-	
153	AC60-12126A	SCREW-BH;-,BH,-,4*12,FE,FZY,-,-,-	
155	AC60-12134A	SCREW-TAP BH;-,BH,-,2-4X16,-,FE	
157	AC60-10063A	SCREW-TAPTITE;BH,+,-,M3,L12,ZPC3,SWRCH18A	
601	DO NOT ORDER	ASSY-MAIN	(S.N.A)
661	AC39-10019A	POWER CORD;KKP-419C,H03VVH2-F,VDE/KEMA-KE	(TSEC LOCAL)
663	3711-002602	CONNECTOR-HEADER;NOWALL,40P,1R,1.5MM,STRAIGHT,SN	
670	DO NOT ORDER	ASSY-FUNCTION	(S.N.A)
LD601A	AC61-22345A	HOLDER-LED;POM,-,-,-,-,-	(TSEC LOCAL)
PT601A	AC61-22344A	HOLDER-PHOTO;POM,-,-,-,-,-	(TSEC LOCAL)
PT602A	AC61-22344A	HOLDER-PHOTO;POM,-,-,-,-,-	(TSEC LOCAL)
S601A	AC61-22321A	HOLDER-TR;POM,-,-,-,-,-	
S602A	AC61-22321A	HOLDER-TR;POM,-,-,-,-,-	
SC301	AC63-42222A	SHIELD-CASE P/AMP(AS;3516ET,T0.3,SIL,SV-80Z,-	(TSEC LOCAL)

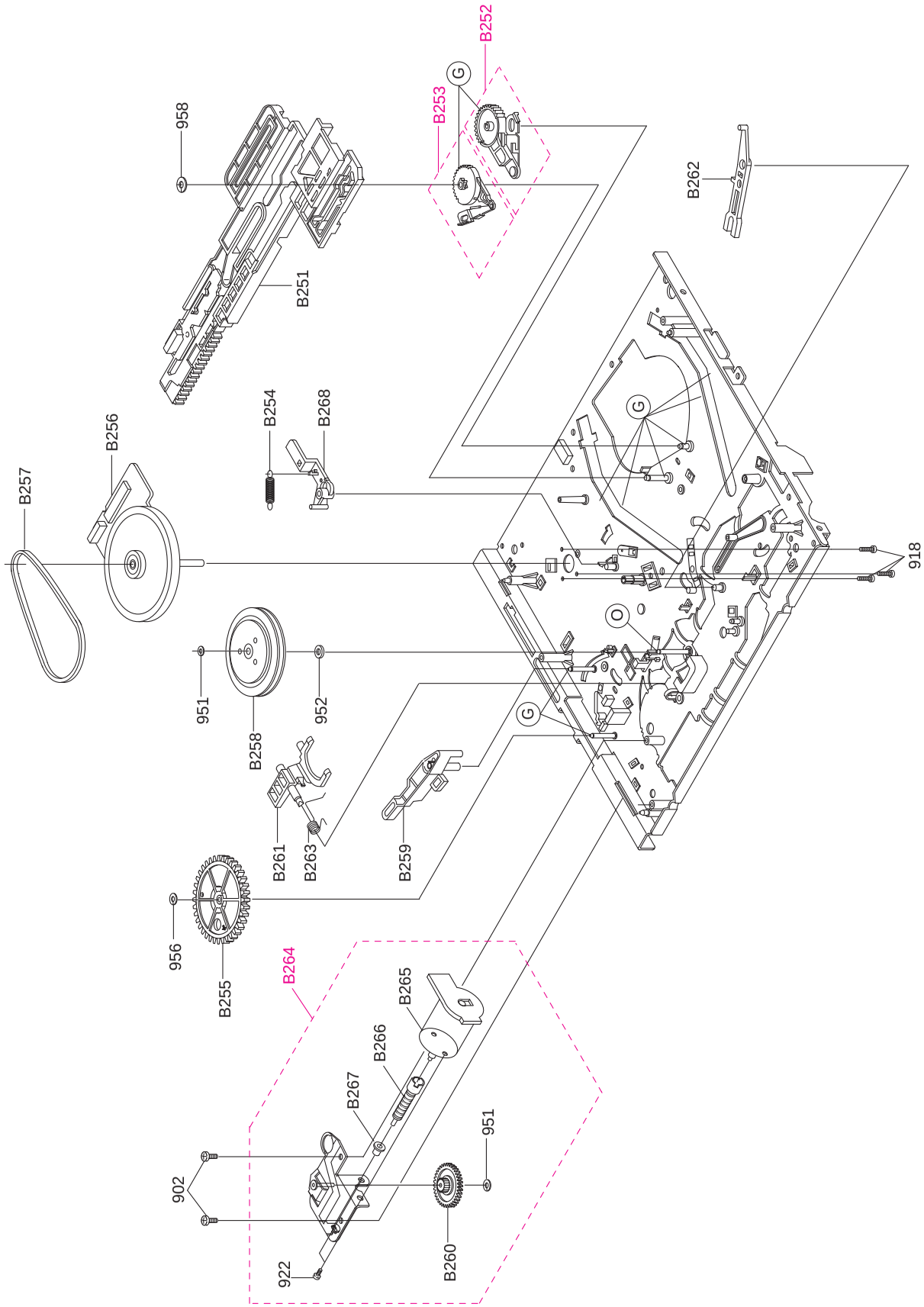
Note : Location number 1, 21 are only for model SV-A10G/SVR-17A/CIS (SMSC, SALSC, SUSC).
Please, refer to the separate information for the other models combind.

6-2 Mechanical Parts (Top Side)



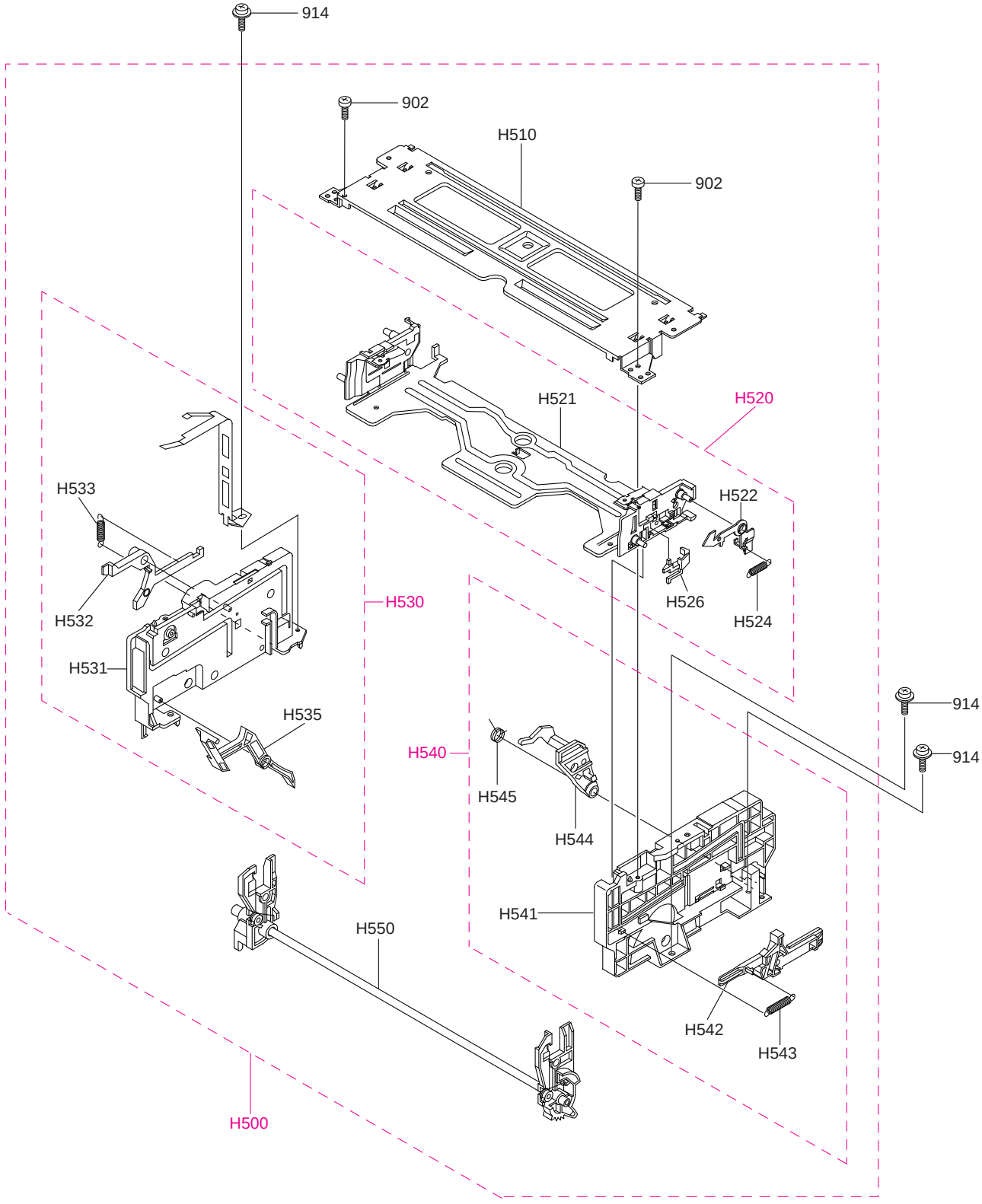
Loc. No	New Part No	Description and Specification	Remark
900	AC60-12091A	SCREW-MACHINE;FP,BH,-,M3,L4,SWRCH10A,YEL ROB	
901	AC60-10012A	SCREW-MACHINE;BH,+,M3,L8,-,FE,-,-,-	
904	AC60-12125A	SCREW-PH;-,-,-,M3X6 TAP TITE,-,-,-,-,-	
905	AC60-12096A	SCREW-MACHINE;FP,PH,-,M2.6,X10,SWRCH1-A,YEL	
912	67094-604-710	SCREW-DAMPER;M2.0X7.0 SWCM 10(MFZN2-C)	
919	AC60-10004A	SCREW-MACHINE;BH,+,M3,L8,ZPC,SWRCH18A,-,-,-	
920	AC60-10007A	SCREW-TAPPING;BH,+,M2.6,L12,-,SWRCH18A,-,-,-	
952	AC60-30018A	WASHER-PLAIN;PLAIN,M3.2,D6,T0.5,POLYSLIDER,	
956	AC60-30007A	WASHER-SLIT;PLAIN,ID2.5,OD7,T0.5,SPC1,-,-	
957	AC60-30008A	WASHER-SLIT;-,ID3.5,OD9,T0.5,SPC1,-,-	
T201	AC66-10023A	REEL-DISK L ASSY;POM,-,PACKAGE,X-5,-	(TSEC LOCAL)
T202	AC66-10022A	REEL-DISK R (ASSY);POM,-,PACKAGE,X-5,-	(TSEC LOCAL)
T203	AC66-30474A	BRAKE-SUB L;-,PBT,-,-,-,X-5/IS	
T204	AC66-30148A	BRAKE SUB R-ASSY;PBT,-,-,-,X5,-	
T207	AC66-30475A	BRAKE-MAIN L ASS'Y;-,POM+PELT,-,-,-,X-5/IS	
T208	AC66-30476A	BRAKE-MAIN R ASS'Y;-,POM+PELT,-,-,-,X-5/IS	
T209	AC61-60112A	SPRING- BRAKE MAIN;ES,SUS304WPB,PI0.35,ID2.8,OD4.	
T210	AC66-20073A	GEAR RELAY S-ASSY;-,PEBAX,M0.5,M48,SP,X5,-	
T211	AC66-20037A	GEAR- RELAY T;PEBAX7033,X-5,Z39,GEAR-SPUR,D1	
T212	AC66-30073A	ARM-TENSION ASSY;-,-,-,CKD,DX5-R,-	
T216	AC61-60119A	SPRING TENSION;ES,SWPB,PI0.35,ID2.1,L33(OD3.8),-,	
T217	AC66-30470A	LEVER-REC S/W;-,PBT #3300,T4.0,L32,-,(X-5/IS	
T218	AC61-62017A	SPRING-SUB BRAKE L;ES,SUS304,PI0.23,D3.5,L14.8,-,	
T219	AC33-10003P	HEAD- MAGNET F/E;MH131S,-,-,-,L51.05XW7.4XH12.3	
T220	AC66-82050A	SLIDER-G/R ASSY(S);-,-,-,-,X-5	
T221	AC66-82059A	SLIDER-G/R ASSY T;-,-,-,-,X-7(VW-31H)	
T222	AC33-10002E	HEAD-CLEANER;-,-,-,-,-,X-5 **(OPTIONAL)**	(TSEC LOCAL)
T223	AC66-20065A	RACK-HOUSING;L74.29,POM M90-44,BLK,M1,3.14,	(TSEC LOCAL)
T224	AC33-10215A	HEAD-ACE ALL ASSY;-,X-7,-,-,-	
T225	AC66-80005A	SLIDER-PINCH;POM(M90-44),T2,L54.35,NAT,DX-5	
T226	AC66-30014A	LEVER-REVIEW;ZYTEL(70G-43L),T3.8,-,PCD25.6,	
T227	AC66-30099A	ARM REVIEW CKD;-,-,-,-,DX5-RV,-	
T228	AC66-30013A	LEVER-PINCH CAM;PBT 6300T,-,L45,W9,X-5,-	
T229	AC66-30003A	LEVER PINCH COUP;PBT 3300,T7.5,L45.25,-,-,X-5	
T230	AC61-60116A	SPRING- PINCH COMP;TS,SWPB,PI1.0,D6,L38(OD8),-,-	
T231	AC67-32001A	PRISM-LED;PMMA,D5,IF-850,-,-,-	
T232	AC66-82049A	SLIDER-PUSH;LUPOX 2150,T2,-,NTR,-	(TSEC LOCAL)
T233	AC61-62016A	SPRING-SLIDE PUSH;ES,SUS304WPB,PI0.55,D3.55,L24.	
T234	AC59-90001B	UNIT-PINCH ROLLER;X-5,-,YAMAUCHI	
T236	AC66-10010A	IDLER-ASSY;PACKAGE,-,X-5,-	(TSEC LOCAL)
T237	AC61-40054A	STOPPER-TAPE;POM M90-44,OD7,T1.5,NTR,X-5,- **(OPTIONAL)**	(TSEC LOCAL)
T238	AC61-60132A	SPRING ARM PINCH;CS,SUS304WPB,PI0.4,D7.1,OD7.9,	
T239	AC66-30132A	LEVER JOG-ASSY;-,-,-,-.X5,- **(DX8-R/RC ONLY)**	
T240	AC61-60505A	SPRING-REC S/W;-,ES,SUS304 WPB,PI0.29,PI3.5,-	
T300	AC96-10011L	ASSY-CYLINDER;CX5-S2P/DLC,-	(TSEC LOCAL)
T302	AC31-12001M	MOTOR-CYLINDER;E20XL03,-,-	(TSEC LOCAL)
T303	AC33-12004S	HEAD-BRUSH(ASSY);SECC20/20+CARBON,-,-,-,-	(TSEC LOCAL)
T309	AC73-12001A	RETRINER-RUBBER(ASSY);SECC+SILICON,-,-,-	(TSEC LOCAL)

6-3 Mechanical Parts (Bottom Side)



Loc. No	New Part No	Description and Specification	Remark
902	AC60-10051A	SCREW-TAPPING;BH,-,-,M3,L8,FZY	
918	AC60-10006A	SCREW-MACHINE;BH,+I90,M2.6,L7,ZPC,SWRCH18A,-	
922	67008-130-171	SCREW PH;+M3X3 FE FZY	
951	AC60-30025A	WASHER-SLIT;-,ID2.5,OD5.0,T0.5,POLY SLIDE,	
952	AC60-30018A	WASHER-PLAIN;PLAIN,M3.2,D6,T0.5,POLYSLIDER,	
956	AC60-30007A	WASHER-SLIT;PLAIN,ID2.5,OD7,T0.5,SPC1,-,-	
958	AC60-30028A	WASHER-SLIT;-,D2.5,D9.0,T0.5,NUMIRROR,-,-	
B251	AC66-80001A	SILDER- MAIN;PBT2002K,T12.4,L206.2,NAT,DX-5	
B252	AC66-20019A	GEAR-LOADING L ASSY;-,-,-,PACKAGE,-,X-5,-	(TSEC LOCAL)
B253	AC66-20069A	GEAR LOADING R;-,-,-,-,-,X5,-	(TSEC LOCAL)
B254	AC61-60115A	SPRING-BRAKE CAPSTAN;ES,SUS304WPB,PI0.4,D22,L16.1(	
B255	AC66-20004A	GEAR-MASTER;POM (M90-44),M 1,Z 60,SP,-,X-5	(TSEC LOCAL)
B256	AC31-12001R	MOTOR-D.D CAPSTAN	(TSEC LOCAL)
B257	AC66-62007A	BELT-CAPSTAN;5CM-70 FR,W2 T2 L88.6,-,-,-,-	
B258	AC66-20066A	CLUTCH-ASSY;-,-,-,-,-,X5,-	(TSEC LOCAL)
B259	AC66-32185A	LEVER-SLIDER PINCH;PBT,T4,NAT,-,-,-	(TSEC LOCAL)
B260	AC66-20016A	GEAR- WORM WHEEL;POM SW-01,M0.55/M1,Z57/Z10,GEA	
B261	AC66-30011A	LEVER- SHIFT;PBT2002K,T10.9,L35,-,-,-	
B262	AC66-30012A	LEVER- IDELR CHANGE;PBT330,T3.3,L50,-,W6.0,-	(TSEC LOCAL)
B263	AC61-60111A	SPRING-LEVER SHIFT;TS,SWPB,PI0.7,D5.5,L13.8(OD6.9	
B264	AC59-90001A	UNIT-LOADING ASSY;X-5,-,-	(TSEC LOCAL)
B265	66823-0060-00	MOTOR-LOADING ASSY;POM+RF370C X-5	
B266	AC66-20039A	GEAR- WORM LO;PBT 2002K,-,-,-,D4.5,3,-	
B267	AC61-20224A	HOLDER SHAFT;POM M90-44,T1.25,NAT,PI5XH5.5,	
B268	AC66-30149A	BRAKE CAPSTAN-ASSY;POM,-,-,-,X5,-	

6-4 Housing Assembly



Loc. No	New Part No	Description and Specification	Old Part No
902	AC60-10051A	SCREW-TAPPING;BH,-,-,M3,L8,FZY	
914	AC60-10067A	SCREW-TAPTITE;PWH,+,-,M3,L8,MFZN2-C,SWCH1018	
H500	AC61-82014A	HOUSING-ASSY;-,X7FL26280A,230X130X60,-,X-7	(TSEC LOCAL)
H510	AC61-10006A	CHASSIS- UPPER;SECC 20/20,-,T1.0,BLK,-,X5,-	(TSEC LOCAL)
H520	AC61-20932A	HOLDER-CASSETTE ASSY;-,X5FL06080A,-,-,-,X-7	(TSEC LOCAL)
H521	AC61-20922A	HOLDER-CASSETTE;-,SECC T1.2,-,NAT,-,(X-5/IS)	(TSEC LOCAL)
H522	AC66-30018A	LEVER-LOCK R;SECC 20/20,T1.2,L44,W32,-,-	(TSEC LOCAL)
H524	AC61-60121A	SPRING-LEVER LOCK;ES,SUS304 WPB,PI0.2,D2.6,L9.9(	(TSEC LOCAL)
H526	AC66-30019A	LEVER-KEY CASSETTE;LUCEL N109-LD,T2.5,L20,W15.2,-	(TSEC LOCAL)
H530	62203-0105-00	CHASSIS-SIDE L(ASSY);ABS X5FL0505A X-5	(TSEC LOCAL)
H531	AC61-10004A	CHASSIS- SIDE L;ABS HF-380,-,T10,BLK,-,X5,BLK	(TSEC LOCAL)
H532	AC66-30004A	LEVER- LIGHT SHUTTER;LUCEL N109-LD,T2.5,L61.7,BLK,	(TSEC LOCAL)
H533	AC61-60142A	SPRING- LIGHT;ES,SUS304WPB,PI0.2,L11.4(OD3.7	(TSEC LOCAL)
H535	AC66-30017A	LEVER- DOOR;LUCELN109-LD,T5,L74.3,W21.1,-,	(TSEC LOCAL)
H540	62203-0104-00	CHASSIS-SIDE R(ASSY);ABS X5FL0505A X-5	(TSEC LOCAL)
H541	AC61-10003A	CHASSIS- SIDE R;ABS HF-380,-,T10,BLK,-,X5,BLK	(TSEC LOCAL)
H542	AC66-80008A	SLIDER DAMPER;LUCEL N109-LD,T4,L87,-,-,-	(TSEC LOCAL)
H543	AC61-60120A	SPRING-SLIDE DAMPER;ES,SUS 304WPB,PI0.4,D3.8,L25(O	(TSEC LOCAL)
H544	AC66-30016A	LEVER- LID OPENER;LUCEL N109-LD,T5.0,L34.7,W16.6	(TSEC LOCAL)
H545	AC61-60123A	SPRING-LID OPENER;TS,SWPB,PI0.55,D8.9,L15(OD10),	(TSEC LOCAL)
H550	61403-0073-00	SHAFT-ARM(ASSY);SUM24L X5FL0405A X-5	(TSEC LOCAL)

MEMO

7. Electrical Parts List

Note : 1. According to the change of Part-No system, old and new parts are listed in this service manual together. When ordering a service part, be sure to use the only new part.

Loc. No	New Part No		Description and Specification	Remark
601	**DO NOT ORDER**		**ASSY-MAIN**	**(S.N.A)**
SMPS/POWER PARTS				
BD1S1	3301-000297		CORE-FERRITE BEAD;AA,3.6X1.2X5.7MM,1400,2900G	
BD1S2	AC27-92001M		INDUCTOR;70UH-M RT BFS3565R2F,-,-,-,-	
C1P03	2401-001952		C-AL;4.7UF,20%,50V,-,4X7MM,5,TP	
C1P04	2401-001975		C-AL;47UF,20%,16V,GP,5X11MM,5,TP	(TSEC LOCAL)
C1P05	2401-001975		C-AL;47UF,20%,16V,GP,5X11MM,5,TP	(TSEC LOCAL)
C1P06	2401-001915		C-AL;1UF,20%,50V,GP,3X5,1MM,TP	(TSEC LOCAL)
C1P08	2401-000303		C-AL;100UF,20%,25V,GP,6.3*11,2.5MM,	(TSEC LOCAL)
C1P09	2202-000780		C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C1P12	2401-001975		C-AL;47UF,20%,16V,GP,5X11MM,5,TP	(TSEC LOCAL)
C1P13	2202-000780		C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C1P14	2401-000419		C-AL;10UF,20%,16V,GP,5X11,5,-	(TSEC LOCAL)
C1S03	2305-001021	⚠	C-FILM,MPEF;100NF,20%,275V,17.5X7X13.5,15M	
C1S04	2305-001021	⚠	C-FILM,MPEF;100NF,20%,275V,17.5X7X13.5,15M	
C1S05	2201-000808	⚠	C-CERAMIC,DISC;2.2NF,10%,400V,Y5P,12X7.5,7.5,	(TSEC LOCAL)
C1S06	2201-000934	⚠	C-CERAMIC,DISC;3.3NF,20%,400V,Y5P,18X8,10,TP	(TSEC LOCAL)
C1S08	2401-001682	⚠	C-AL;82UF,20%,400V,GP,22X25,10MM,	(TSEC LOCAL)
C1S09	2301-000140		C-FILM,PEF;10NF,10%,630V,16.5X9.5X5.7X,12	(TSEC LOCAL)
C1S10	2201-000915		C-CERAMIC,DISC;100PF,10%,1KV,Y5P,6X5,5,TP	(TSEC LOCAL)
C1S15	2201-000379		C-CERAMIC,DISC;22NF,+80-20%,50V,Y5V,8.0X4.0,5	
C1S16	2201-000934		C-CERAMIC,DISC;3.3NF,20%,400V,Y5P,18X8,10,TP	(TSEC LOCAL)
C1S17	2401-001939		C-AL;22UF,20%,50V,GP,6.3X11MM,2.5MM	(TSEC LOCAL)
C1S18	2201-000379		C-CERAMIC,DISC;22NF,+80-20%,50V,Y5V,8.0X4.0,5	
C1S19	2401-001912		C-AL;1UF,20%,50V,GP,5X11MM,2MM,BK	(TSEC LOCAL)
C1S31	2401-001134		C-AL;330UF,20%,35V,WT,10X16,5MM,TP	(TSEC LOCAL)
C1S32	2401-001998		C-AL;1000UF,20%,25V,GP,10X20,5MM,TP	
C1S33	2401-001125		C-AL;330UF,20%,25V,WT,10X12.5,5MM,T	(TSEC LOCAL)
C1S34	2401-000128		C-AL;1000UF,20%,16V,GP,10X16,7.5MM,	(TSEC LOCAL)
C1S35	2401-001479		C-AL;470UF,20%,10V,GP,-,-,TP	
C1S38	2301-000129		C-FILM,PEF;100NF,5%,50V,10X9X4.3X5,5MM,TP	(TSEC LOCAL)
CN1S1	3711-000178	⚠	CONNECTOR-HEADER;1WALL,2P,1R,3.96MM,STRAIGHT,SN	
D1P01	0402-000127		DIODE-RECTIFIER;1N4002,100V,1A,DO-41	
D1P02	0402-000127		DIODE-RECTIFIER;1N4002,100V,1A,DO-41	
D1P03	0402-000127		DIODE-RECTIFIER;1N4002,100V,1A,DO-41	
D1P06	0401-000101		DIODE-SWITCHING;1N4148,100V,200MA,500MW,4NS,DO	
D1P20	0402-000127		DIODE-RECTIFIER;1N4002,100V,1A,DO-41	
D1S01	0402-001009	⚠	DIODE-RECTIFIER;1SR139,600V,1A,MSR	
D1S02	0402-001009	⚠	DIODE-RECTIFIER;1SR139,600V,1A,MSR	
D1S03	0402-001009	⚠	DIODE-RECTIFIER;1SR139,600V,1A,MSR	
D1S04	0402-001009	⚠	DIODE-RECTIFIER;1SR139,600V,1A,MSR	
D1S05	0402-000378		DIODE-RECTIFIER;EG01C,1000V,500MA,DO-41	
D1S07	0402-001013		DIODE-RECTIFIER;1SR153-400,400V,800MA,DO-41	
D1S31	0402-001013		DIODE-RECTIFIER;1SR153-400,400V,800MA,DO-41	
D1S32	0402-001069		DIODE-RECTIFIER;RL10Z,200V,2A,DO,TP	
D1S33	0402-001069		DIODE-RECTIFIER;RL10Z,200V,2A,DO,TP	
D40	0402-000127		DIODE-RECTIFIER;1N4002,100V,1A,DO-41	

Loc. No	New Part No		Description and Specification	Remark
D41	0402-000127		DIODE-RECTIFIER;1N4002,100V,1A,DO-41	
D46	0402-000127		DIODE-RECTIFIER;1N4002,100V,1A,DO-41	
D47	0402-000127		DIODE-RECTIFIER;1N4002,100V,1A,DO-41	
D48	0402-000127		DIODE-RECTIFIER;1N4002,100V,1A,DO-41	
F1S01	A3065-0157	⚠	FUSE;FST 250V 1.6A 20MM SEMKO S505 C	
IC1P01	AC14-12001E		IC;KA7809,-,-	
IC1S1	1203-001049	⚠	IC-PWM CONTROLLER;1L0380,TO-220F,4P,10MIL,PLASTI	
IC1S2	B4161-0019	⚠	PHOTO-COUPLER;PC121FY	
IC1S3	AC14-12006D	⚠	IC;KA431Z,TO-92,TAPING	
JC01	3722-000458		JACK-DIN;4P/2C,-,SN,BLK,-	
L1S01	A1151-0042	⚠	COIL-LINE FILTER;BSF-2120Z 25MH 3.2OHM	
L1S05	AC27-92001M		INDUCTOR;70UH-M RT BFS3565R2F,-,-,-,-	
L1S30	AC27-12001N		COIL-CHOKE;10UH-15%,RA,K-30,Q80,150KHZ,-,	(TSEC LOCAL)
L1S31	AC27-12001N		COIL-CHOKE;10UH-15%,RA,K-30,Q80,150KHZ,-,	(TSEC LOCAL)
L1S33	AC27-92001M		INDUCTOR;70UH-M RT BFS3565R2F,-,-,-,-	
PT01	AC26-20120A	⚠	TRANS-SWITCHING;-,220V,UL/CSA,-,1000UH,-,SV-D1	
Q1P01	0501-000610		TR-SMALL SIGNAL;KSA928A-Y,PNP,1W,TO-92L,TP,160	
Q1P02	0504-000116		TR-DIGITAL;KSR1001,NPN,300MW,4.7K-4.7K,TO	
Q1P03	0501-000610		TR-SMALL SIGNAL;KSA928A-Y,PNP,1W,TO-92L,TP,160	
Q1P04	0504-000116		TR-DIGITAL;KSR1001,NPN,300MW,4.7K-4.7K,TO	
Q1P05	0501-000616		TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L,TP,16	
Q1P06	0501-000398		TR-SMALL SIGNAL;KSC945-Y,NPN,250MW,TO-92,TP,12	
R1P03	2001-000273		R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R1P04	2001-000611		R-CARBON;3.9KOHM,5%,1/4W,AA,TP,2.4X6.4M	(TSEC LOCAL)
R1P05	2001-000449		R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R1P06	2001-000429		R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R1P07	2001-000221		R-CARBON;1.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R1P08	2001-000034		R-CARBON;220OHM,5%,1/4W,AA,TP,2.4X6.4MM	(TSEC LOCAL)
R1S02	2003-000273		R-METAL OXIDE;33KOHM,5%,2W,AA,TP,6X16MM	
R1S03	2001-000076		R-CARBON;47KOHM,5%,1/4W,AA,TP,2.4X6.4MM	
R1S06	2003-000273		R-METAL OXIDE;33KOHM,5%,2W,AA,TP,6X16MM	
R1S07	2001-000302		R-CARBON;10OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R1S11	2006-000262		R-CEMENT;2.7OHM,10%,2W,CB,ST,7.5X11X20.	
R1S12	2001-000076		R-CARBON;47KOHM,5%,1/4W,AA,TP,2.4X6.4MM	
R1S13	2001-000076		R-CARBON;47KOHM,5%,1/4W,AA,TP,2.4X6.4MM	
R1S14	2001-000076		R-CARBON;47KOHM,5%,1/4W,AA,TP,2.4X6.4MM	
R1S15	2003-000148		R-METAL OXIDE;100OHM,5%,2W,AE,TP,6X16MM	
R1S30	2001-000515		R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R1S31	2001-000221		R-CARBON;1.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R1S32	2001-000429		R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R1S33	2004-000869		R-METAL;3KOHM,1%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R1S34	2004-000459		R-METAL;2.2KOHM,1%,1/8W,AA,TP,1.8X3.2M	
VAS01	1405-000186	⚠	VARISTOR;470V,4500A,17X12MM,TP	
VAS02	1405-000186	⚠	VARISTOR;470V,4500A,17X12MM,TP	
ZD1P02	0403-000557		DIODE-ZENER;MTZ5.1C,5.1V,5.09-5.37V,500MW,	
ZD1S1	0403-000539		DIODE-ZENER;MTZ18C,18V,17.42-18.33V,500MW,	
ZD1S2	0403-000294		DIODE-ZENER;MTZ4.7B,4.7V,4.55-4.80V,500MW,	
SYSTEM CONTROL/SERVO PARTS				
BD501	3301-000297		CORE-FERRITE BEAD;AA,3.6X1.2X5.7MM,1400,2900G	
BD601	3301-000297		CORE-FERRITE BEAD;AA,3.6X1.2X5.7MM,1400,2900G	
BD602	3301-000297		CORE-FERRITE BEAD;AA,3.6X1.2X5.7MM,1400,2900G	
BD605	AC27-92001B		COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
C601	2202-000807		C-CERAMIC,MLC-AXIAL;22NF,+80-20%,25V,Y5V,3.5X19,	(TSEC LOCAL)
C602	2202-000797		C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)

Loc. No	New Part No	Description and Specification	Remark
C603	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C604	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C605	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C606	2202-000807	C-CERAMIC,MLC-AXIAL;22NF,+80-20%,25V,Y5V,3.5X19,	(TSEC LOCAL)
C607	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C608	2401-001887	C-AL;100NF,20%,50V,-,4X7MM,5,TP	(TSEC LOCAL)
C609	2301-000445	C-FILM,PEF;4.7NF,5%,50V,5.5X7X3MM,5MM,TP	(TSEC LOCAL)
C610	2401-000918	C-AL;22UF,20%,16V,GP,5X7,5,-	
C611	2201-000281	C-CERAMIC,DISC;1NF,+80-20%,50V,Y5V,4.0X4.0MM,2.5	(TSEC LOCAL)
C612	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C613	2401-001917	C-AL;1UF,20%,50V,-,5X7MM,5,TP	
C614	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C615	2401-001978	C-AL;47UF,20%,25V,GP,6.3X5,-,TP	
C616	2401-001952	C-AL;4.7UF,20%,50V,-,4X7MM,5,TP	
C617	2401-001917	C-AL;1UF,20%,50V,-,5X7MM,5,TP	
C618	2401-001912	C-AL;1UF,20%,50V,GP,5X11MM,2MM,BK	(TSEC LOCAL)
C619	2401-001893	C-AL;100UF,20%,16V,-,6.3X7MM,5,TP	(TSEC LOCAL)
C620	2401-000650	C-AL;2.2UF,20%,50V,GP,3*5,1MM,TP	(TSEC LOCAL)
C621	2202-000821	C-CERAMIC,MLC-AXIAL;560PF,10%,50V,Y5P,3.5X19,-,T	(TSEC LOCAL)
C622	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C623	2301-000415	C-FILM,PEF;22NF,5%,50V,6.5X10.5X4MM,5MM,T	(TSEC LOCAL)
C624	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C625	2301-000415	C-FILM,PEF;22NF,5%,50V,6.5X10.5X4MM,5MM,T	(TSEC LOCAL)
C626	2202-000821	C-CERAMIC,MLC-AXIAL;560PF,10%,50V,Y5P,3.5X19,-,T	(TSEC LOCAL)
C627	2401-001895	C-AL;100UF,20%,16V,GP,6.3X11MM,2.5M	
C628	2401-001511	C-AL;47UF,20%,16V,GP,6X7,5,-	
C629	2202-000807	C-CERAMIC,MLC-AXIAL;22NF,+80-20%,25V,Y5V,3.5X19,	(TSEC LOCAL)
C630	2401-000459	C-AL;10UF,20%,35V,GP,5*7,2MM,TP	(TSEC LOCAL)
C631	2301-000424	C-FILM,PEF;3.3NF,5%,50V,5.5X7X3MM,5MM,TP	(TSEC LOCAL)
C632	2202-000796	C-CERAMIC,MLC-AXIAL;1NF,10%,50V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C633	2202-000796	C-CERAMIC,MLC-AXIAL;1NF,10%,50V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C634	2401-000303	C-AL;100UF,20%,25V,GP,6.3*11,2.5MM,	(TSEC LOCAL)
C635	2401-001893	C-AL;100UF,20%,16V,-,6.3X7MM,5,TP	
C636	2301-000129	C-FILM,PEF;100NF,5%,50V,10X9X4.3X5,5MM,TP	(TSEC LOCAL)
C637	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C638	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C639	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C640	2401-001893	C-AL;100UF,20%,16V,-,6.3X7MM,5,TP	(TSEC LOCAL)
C641	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C642	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C646	2201-000281	C-CERAMIC,DISC;1NF,+80-20%,50V,Y5V,4.0X4.0MM,2.5	(TSEC LOCAL)
C647	2202-000162	C-CERAMIC,MLC-AXIAL;15PF,5%,50V,SL,3.5X19,-,TP	(TSEC LOCAL)
C648	2202-000162	C-CERAMIC,MLC-AXIAL;15PF,5%,50V,SL,3.5X19,-,TP	(TSEC LOCAL)
C649	2401-001915	C-AL;1UF,20%,50V,GP,3X5,1MM,TP	(TSEC LOCAL)
C650	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C654	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C660	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C6601	2401-001975	C-AL;47UF,20%,16V,GP,5X11MM,5,TP	
C6602	2401-001912	C-AL;1UF,20%,50V,GP,5X11MM,2MM,BK	(TSEC LOCAL)
C661	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C662	2401-001895	C-AL;100UF,20%,16V,GP,6.3X11MM,2.5M	
C663	2202-000279	C-CERAMIC,MLC-AXIAL;47PF,5%,50V,SL,3.5X19,-,TP	(TSEC LOCAL)
CN601	3711-002445	CONNECTOR-HEADER;BOX,2P,2R,1.5MM,STRAIGHT,SN	
CN602	3710-000546	CONNECTOR-SOCKET;20P,1R,1.5MM,ANGLE,SN	
CN603	3710-000546	CONNECTOR-SOCKET;20P,1R,1.5MM,ANGLE,SN	

Loc. No	New Part No	Description and Specification	Remark
CN604	3711-003149	CONNECTOR-HEADER;BOX,6P,2R,2.0MM,STRAIGHT,SN	
CN606	3711-003148	CONNECTOR-HEADER;BOX,10P,2R,2.0MM,STRAIGHT,SN	
D601	0401-000101	DIODE-SWITCHING;1N4148,100V,200MA,500MW,4NS,DO	
D602	0401-000101	DIODE-SWITCHING;1N4148,100V,200MA,500MW,4NS,DO	
D603	0401-000101	DIODE-SWITCHING;1N4148,100V,200MA,500MW,4NS,DO	
D604	0401-000101	DIODE-SWITCHING;1N4148,100V,200MA,500MW,4NS,DO	
D605	0401-000101	DIODE-SWITCHING;1N4148,100V,200MA,500MW,4NS,DO	
D606	0401-000101	DIODE-SWITCHING;1N4148,100V,200MA,500MW,4NS,DO	
D607	0401-000101	DIODE-SWITCHING;1N4148,100V,200MA,500MW,4NS,DO	
D608	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41	
D609	0401-000101	DIODE-SWITCHING;1N4148,100V,200MA,500MW,4NS,DO	
D615	0401-000101	DIODE-SWITCHING;1N4148,100V,200MA,500MW,4NS,DO	
D6601	0401-000101	DIODE-SWITCHING;1N4148,100V,200MA,500MW,4NS,DO	
D6602	0401-000101	DIODE-SWITCHING;1N4148,100V,200MA,500MW,4NS,DO	
IC601	AC09-10453D	IC-MCU;KS88C8016-XX,A10G(1),80,QFP,SS	
IC602	AC14-12003K	IC;KA8301(N.M),-,-	
IC603	AC14-12001K	IC;KA324,-,-	
IC604	AC14-12003U	IC-LINEAR;KA358S,-,-	
IC605	AC14-12003Q	IC;KA393,-,-	
IC606	AC14-12002G	IC;MN1280-Q,-,-	
L602	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L603	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L604	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
LD601	0601-000495	LED-IR;ROUND,3MM,150MW,6V,950NM,BK	
PT601	0604-000188	PHOTO-INTERRUPTER;TR,-,-,DIP-4,TR	
PT602	0604-000188	PHOTO-INTERRUPTER;TR,-,-,DIP-4,TR	
Q601	0501-000398	TR-SMALL SIGNAL;KSC945-Y,NPN,250MW,TO-92,TP,12	
Q602	0501-000398	TR-SMALL SIGNAL;KSC945-Y,NPN,250MW,TO-92,TP,12	
Q603	0504-000203	TR-DIGITAL;KSR1004,NPN,300MW,47K-47K,TO-9	
Q604	0501-000303	TR-SMALL SIGNAL;KSA733-Y,PNP,250MW,TO-92,-,120	
Q605	0504-000118	TR-DIGITAL;KSR1003,NPN,300MW,22K-22K,TO-9	
Q620	0504-000203	TR-DIGITAL;KSR1004,NPN,300MW,47K-47K,TO-9	
Q6601	0501-000398	TR-SMALL SIGNAL;KSC945-Y,NPN,250MW,TO-92,TP,12	
Q6602	0504-000203	TR-DIGITAL;KSR1004,NPN,300MW,47K-47K,TO-9	
Q6603	0504-000203	TR-DIGITAL;KSR1004,NPN,300MW,47K-47K,TO-9	
Q6604	0504-000203	TR-DIGITAL;KSR1004,NPN,300MW,47K-47K,TO-9	
Q6605	0504-000142	TR-DIGITAL;KSR2001,PNP,300MW,4.7K-4.7K,TO	
Q6606	0504-000142	TR-DIGITAL;KSR2001,PNP,300MW,4.7K-4.7K,TO	
Q6607	0504-000203	TR-DIGITAL;KSR1004,NPN,300MW,47K-47K,TO-9	
R6001	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R6002	2001-000947	R-CARBON;7.5KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R6003	2001-000837	R-CARBON;51KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R6004	2001-000221	R-CARBON;1.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R6005	2003-000259	R-METAL OXIDE;3.9OHM,5%,2W,AE,TP,6X16MM	
R6006	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R6007	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R6008	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R6009	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R601	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R6020	2001-000924	R-CARBON;680OHM,5%,1/8W,AA **(REC OPTION)**	(TSEC LOCAL)
R6024	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA **(PB OPTION)**	(TSEC LOCAL)
R6025	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA **(REC OPTION)**	(TSEC LOCAL)
R603	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R6030	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R604	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)

Loc. No	New Part No	Description and Specification	Remark
R605	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R607	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R608	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R611	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R613	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R614	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R615	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R616	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R617	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R618	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R619	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R620	2001-000405	R-CARBON;180OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R621	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R622	2001-000554	R-CARBON;270OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R623	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R624	2001-000221	R-CARBON;1.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R632	2001-000878	R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R633	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R634	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R635	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R636	2001-000800	R-CARBON;5.1KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R637	2001-000508	R-CARBON;220KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R638	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R639	2001-000508	R-CARBON;220KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R640	2001-000832	R-CARBON;510OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R641	2001-000508	R-CARBON;220KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R642	2001-000832	R-CARBON;510OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R643	2001-000508	R-CARBON;220KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R644	2001-000679	R-CARBON;36KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R645	2001-000554	R-CARBON;270OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R646	61048-177-333	R-CARBON;RD 1/8 T 333-J	(TSEC LOCAL)
R647	2001-000008	R-CARBON;15KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R648	2001-001000	R-CARBON;82KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R649	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R650	2001-000319	R-CARBON;120KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R651	2001-000947	R-CARBON;7.5KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R652	2001-001015	R-CARBON;9.1KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R654	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R655	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R656	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R657	2001-000454	R-CARBON;2.2MOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R658	2001-000613	R-CARBON;3.9KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R659	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R660	2001-000008	R-CARBON;15KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R6601	2001-000702	R-CARBON;39KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R6602	2001-000995	R-CARBON;820OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R6603	2001-000793	R-CARBON;47OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R6604	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R6605	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R6606	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R6607	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R661	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R662	2001-000633	R-CARBON;30KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R663	2001-000954	R-CARBON;750KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R664	2001-000011	R-CARBON;75KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)

Loc. No	New Part No	Description and Specification	Remark
R665	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R666	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R667	2001-000954	R-CARBON;750KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R668	2001-001000	R-CARBON;82KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R669	2001-000319	R-CARBON;120KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R670	2001-000679	R-CARBON;36KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R671	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R672	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R673	2001-000908	R-CARBON;62KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R674	2001-000954	R-CARBON;750KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R675	2001-000244	R-CARBON;1.5MOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R676	2001-000008	R-CARBON;15KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R677	2001-000011	R-CARBON;75KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R678	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R679	2001-000258	R-CARBON;1.8KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R680	2001-000241	R-CARBON;1.5KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R681	2001-000244	R-CARBON;1.5MOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R682	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R683	2001-000305	R-CARBON;110KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R684	2001-000435	R-CARBON;1MOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R685	2001-000908	R-CARBON;62KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R686	2001-000009	R-CARBON;20KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R687	2001-000012	R-CARBON;680KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R688	2001-000011	R-CARBON;75KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R689	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R690	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R691	2001-000221	R-CARBON;1.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R692	2001-000008	R-CARBON;15KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R693	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R694	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R695	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R696	2001-000380	R-CARBON;160KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R697	2001-000761	R-CARBON;430OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R698	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R699	2001-000947	R-CARBON;7.5KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
S601	0603-000112	PHOTO-TR;NPN,35V,6V,50MA,75MW,-	
S602	0603-000112	PHOTO-TR;NPN,35V,6V,50MA,75MW,-	
SW601	AC34-22001E	SWITCH-PROGRAM;MXS00281MLB0,-,-,-,-,-,-,-	
SW602	3409-000176	SWITCH-DETECTOR;30VDC,100MA,SPST,-,-	
VR601	2103-000171	VR-SEMI;10KOHM,30%,1/10W,TOP	
W666	3301-000297	CORE-FERRITE BEAD;AA,3.6X1.2X5.7MM,1400,2900G	
W6668	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
W6669	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
XT601	2801-001109	CRYSTAL-UNIT;8MHZ,50PPM,28-AAM,16PF,40OHM,B	
AUDIO/VIDEO PARTS			
C301	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C302	2202-000781	C-CERAMIC,MLC-AXIAL;100PF,10%,50V,Y5P,3.5X19,-,T	(TSEC LOCAL)
C303	2202-000243	C-CERAMIC,MLC-AXIAL;33PF,5%,50V,SL,3.5X19,-,TP	(TSEC LOCAL)
C304	2202-000243	C-CERAMIC,MLC-AXIAL;33PF,5%,50V,SL,3.5X19,-,TP	(TSEC LOCAL)
C305	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C306	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C309	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C310	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C311	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)

Loc. No	New Part No	Description and Specification	Remark
C312	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C314	2401-001511	C-AL;47UF,20%,16V,GP,6X7,5,-	
C315	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C316	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C317	2401-001917	C-AL;1UF,20%,50V,-,5X7MM,5,TP	
C320	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C321	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C322	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C324	B1102-0113	C-FILM;CQ 922 P 100V 473-J CQ298PVT473J ECQV473J	
C325	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C326	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C327	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C328	2202-000216	C-CERAMIC,MLC-AXIAL;27PF,5%,50V,SL,3.5X19,-,TP	
C330	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C331	2401-000912	C-AL;22UF,20%,16V,GP,5X5,5,-	
C332	2202-000806	C-CERAMIC,MLC-AXIAL;220PF,10%,50V,Y5P,3.5X19,-,T	(TSEC LOCAL)
C333	2201-000836	C-CERAMIC,DISC;390PF,5%,50V,SL,8X5,5,TP	(TSEC LOCAL)
C335	2202-000849	C-CERAMIC,MLC-AXIAL;18PF,0.05,50V,CH,3.5X1.9,-,T	(TSEC LOCAL)
C336	2201-000813	C-CERAMIC,DISC;200PF,5%,50V,CH,10X5,5,TP	(TSEC LOCAL)
C337	2201-000930	C-CERAMIC,DISC;220PF,10%,500V,Y5P,6X4,5,TP	
C338	2202-000162	C-CERAMIC,MLC-AXIAL;15PF,5%,50V,SL,3.5X19,-,TP	(TSEC LOCAL)
C340	2401-001912	C-AL;1UF,20%,50V,GP,5X11MM,2MM,BK	(TSEC LOCAL)
C341	2401-001912	C-AL;1UF,20%,50V,GP,5X11MM,2MM,BK	(TSEC LOCAL)
C342	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C343	2401-001975	C-AL;47UF,20%,16V,GP,5X11MM,5,TP	(TSEC LOCAL)
C344	2401-000419	C-AL;10UF,20%,16V,GP,5X11,5,-	(TSEC LOCAL)
C345	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C346	2401-001975	C-AL;47UF,20%,16V,GP,5X11MM,5,TP	(TSEC LOCAL)
C347	2401-000419	C-AL;10UF,20%,16V,GP,5X11,5,-	(TSEC LOCAL)
C348	2401-001912	C-AL;1UF,20%,50V,GP,5X11MM,2MM,BK	(TSEC LOCAL)
C349	2401-001912	C-AL;1UF,20%,50V,GP,5X11MM,2MM,BK	
C350	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C351	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C352	2401-001975	C-AL;47UF,20%,16V,GP,5X11MM,5,TP	(TSEC LOCAL)
C353	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C355	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C356	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C357	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C358	2401-001912	C-AL;1UF,20%,50V,GP,5X11MM,2MM,BK	(TSEC LOCAL)
C359	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C360	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C361	2401-001975	C-AL;47UF,20%,16V,GP,5X11MM,5,TP	
C362	2401-001912	C-AL;1UF,20%,50V,GP,5X11MM,2MM,BK	(TSEC LOCAL)
C363	2202-000807	C-CERAMIC,MLC-AXIAL;22NF,+80-20%,25V,Y5V,3.5X19,	(TSEC LOCAL)
C364	2401-001912	C-AL;1UF,20%,50V,GP,5X11MM,2MM,BK	(TSEC LOCAL)
C366	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C367	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C368	B1102-0113	C-FILM;CQ 922 P 100V 473-J CQ298PVT473J ECQV473J	
C369	2401-001912	C-AL;1UF,20%,50V,GP,5X11MM,2MM,BK	(TSEC LOCAL)
C370	B1102-0113	C-FILM;CQ 922 P 100V 473-J CQ298PVT473J ECQV473J	
C371	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C372	2401-001975	C-AL;47UF,20%,16V,GP,5X11MM,5,TP	(TSEC LOCAL)
C373	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C374	2401-000419	C-AL;10UF,20%,16V,GP,5X11,5,-	(TSEC LOCAL)
C375	2202-000243	C-CERAMIC,MLC-AXIAL;33PF,5%,50V,SL,3.5X19,-,TP	(TSEC LOCAL)

Loc. No	New Part No	Description and Specification	Remark
C3A01	2401-001895	C-AL;100UF,20%,16V,GP,6.3X11MM,2.5M	
C3A02	B1102-0113	C-FILM;CQ 922 P 100V 473-J CQ298PVT473J ECQV473J	
C3A03	2401-001975	C-AL;47UF,20%,16V,GP,5X11MM,5,TP	(TSEC LOCAL)
C3A04	2301-000224	C-FILM,PEF;22NF,5%,50V,7.4X3.9X13MM,5MM,T	
C3A05	2301-000264	C-FILM,PEF;4.7NF,5%,50V,6.5X5.5X3.0X5,5MM	
C3A06	2301-000405	C-FILM,PEF;2.2NF,5%,50V,5.5X7X3.2MM,5MM,T	(TSEC LOCAL)
C3A07	2301-000402	C-FILM,PEF;1NF,5%,50V,5X7X2.8MM,5MM,TP	(TSEC LOCAL)
C3A08	2401-001912	C-AL;1UF,20%,50V,GP,5X11MM,2MM,BK	(TSEC LOCAL)
C3A09	2401-001250	C-AL;4.7UF,20%,35V,GP,4X5,5,TP	(TSEC LOCAL)
C3A10	2401-000419	C-AL;10UF,20%,16V,GP,5X11,5,-	(TSEC LOCAL)
C3A11	2401-000419	C-AL;10UF,20%,16V,GP,5X11,5,-	(TSEC LOCAL)
C3A12	2301-000383	C-FILM,PEF;10NF,5%,50V,6X7X3.2MM,5MM,TP	(TSEC LOCAL)
C3A15	2401-001911	C-AL;1UF,20%,50V,BP,6X11MM,2MM,BK	(TSEC LOCAL)
C3A16	2401-001912	C-AL;1UF,20%,50V,GP,5X11MM,2MM,BK	(TSEC LOCAL)
C3A17	2301-000464	C-FILM,PEF;6.8NF,5%,50V,5.5X7X3MM,5MM,TP	(TSEC LOCAL)
C3A18	2301-000464	C-FILM,PEF;6.8NF,5%,50V,5.5X7X3MM,5MM,TP	(TSEC LOCAL)
C3A19	2301-000473	C-FILM,PEF;8.2NF,10%,50V,5.7X7X3MM,5MM,TP	(TSEC LOCAL)
C3A20	2301-000217	C-FILM,PEF;220NF,5%,50V,8.0X9.5X4.5X5,5MM	(TSEC LOCAL)
C3A21	2401-000907	C-AL;22UF,20%,16V,GP,5*11,2MM,	
C3A23	2401-001164	C-AL;33UF,20%,16V,GP,5*11,2MM,	(TSEC LOCAL)
C3A25	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C3A26	2401-001975	C-AL;47UF,20%,16V,GP,5X11MM,5,TP	(TSEC LOCAL)
C3A27	2401-001954	C-AL;4.7UF,20%,50V,GP,5X11MM,5,TP	(TSEC LOCAL)
C3A28	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C3A29	2301-000381	C-FILM,PEF;10NF,5%,50V,6.5X5.5X3MM,5MM,TP	(TSEC LOCAL)
C3A30	2301-001046	C-FILM,PEF;15NF,5%,50V,6.5X3.5X9,5,TP	(TSEC LOCAL)
CN3A01	3708-001053	CONNECTOR-FPC/FC/PIC;7P,1.25MM,STRAIGHT,SN	
CN3P01	3708-000395	CONNECTOR-FPC/FC/PIC;8P,1.25MM,STRAIGHT,SN	
CN502	3711-000371	CONNECTOR-HEADER;-,2P,1R,2MM,STRAIGHT,-	
D301	0401-000101	DIODE-SWITCHING;1N4148,100V,200MA,500MW,4NS,DO	
FL3A01	AC27-80100A	COIL-OSC;126QN-K5272YHC=K,-,AM	
IC301	1204-001056	IC-SIGNAL PROCESSOR;SS11501M,QFP,80P,-,PLASTIC,7	
IC302	AC14-12014L	IC-LINEAR;LA7411,DIP,PRE-AMP	
IC303	1209-001024	IC-DELAY LINE;SS23378M,SOP,14P,225MIL,PLASTI	
L301	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L303	2701-000206	INDUCTOR-AXIAL;56UH,5%,2.4X3.4MM	(TSEC LOCAL)
L304	2701-000135	INDUCTOR-AXIAL;180UH,5%,2.4X3.4MM	(TSEC LOCAL)
L305	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L306	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L308	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L310	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L312	2701-000149	INDUCTOR-AXIAL;2.7UH,10%,2.5X3.4MM	
L3A02	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L3A03	2702-000120	INDUCTOR-RADIAL;15MH,5%,6.2X7.4MM	(TSEC LOCAL)
L3A04	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
Q302	0501-000303	TR-SMALL SIGNAL;KSA733-Y,PNP,250MW,TO-92,-,120	
Q303	0501-000303	TR-SMALL SIGNAL;KSA733-Y,PNP,250MW,TO-92,-,120	
Q304	0501-000398	TR-SMALL SIGNAL;KSC945-Y,NPN,250MW,TO-92,TP,12	
Q306	0504-000203	TR-DIGITAL;KSR1004,NPN,300MW,47K-47K,TO-9	
Q307	0504-000203	TR-DIGITAL;KSR1004,NPN,300MW,47K-47K,TO-9	
Q309	0501-000398	TR-SMALL SIGNAL;KSC945-Y,NPN,250MW,TO-92,TP,12	
Q310	0501-000303	TR-SMALL SIGNAL;KSA733-Y,PNP,250MW,TO-92,-,120	
Q312	0501-000398	TR-SMALL SIGNAL;KSC945-Y,NPN,250MW,TO-92,TP,12	
Q313	0504-000203	TR-DIGITAL;KSR1004,NPN,300MW,47K-47K,TO-9	
Q3A01	0501-000398	TR-SMALL SIGNAL;KSC945-Y,NPN,250MW,TO-92,TP,12	

Loc. No	New Part No	Description and Specification	Remark
Q3A02	0501-000398	TR-SMALL SIGNAL;KSC945-Y,NPN,250MW,TO-92,TP,12	
Q3A03	0501-000010	TR-SMALL SIGNAL;KSC1008-Y,NPN,80V,60V,700MA,80	
Q3A04	0501-000303	TR-SMALL SIGNAL;KSA733-Y,PNP,250MW,TO-92,-,120	
Q3A05	0501-000398	TR-SMALL SIGNAL;KSC945-Y,NPN,250MW,TO-92,TP,12	
Q3A06	0504-000203	TR-DIGITAL;KSR1004,NPN,300MW,47K-47K,TO-9	
R303	2001-000009	R-CARBON;20KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R305	2001-000252	R-CARBON;1.6KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R309	61048-177-333	R-CARBON;RD 1/8 T 333-J	(TSEC LOCAL)
R310	2001-000613	R-CARBON;3.9KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R311	2001-000241	R-CARBON;1.5KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R312	61048-177-333	R-CARBON;RD 1/8 T 333-J	(TSEC LOCAL)
R314	2001-000554	R-CARBON;270OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R315	2001-000613	R-CARBON;3.9KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R316	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R317	61048-177-333	R-CARBON;RD 1/8 T 333-J	(TSEC LOCAL)
R318	61048-177-333	R-CARBON;RD 1/8 T 333-J	(TSEC LOCAL)
R319	2001-000005	R-CARBON;390OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R320	2001-000577	R-CARBON;2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R321	2001-000005	R-CARBON;390OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R322	2001-001015	R-CARBON;9.1KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R323	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R324	2001-000241	R-CARBON;1.5KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R327	2001-000221	R-CARBON;1.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R328	2001-000221	R-CARBON;1.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R329	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R331	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R332	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R333	2001-000977	R-CARBON;8.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R334	2001-000258	R-CARBON;1.8KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R337	2001-000472	R-CARBON;2.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R338	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R351	2001-000472	R-CARBON;2.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R352	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R353	2001-000628	R-CARBON;300OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R354	2001-000858	R-CARBON;56KOHM,1%,1/8W,AD,TP,1.8X3.2MM	(TSEC LOCAL)
R355	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R3A02	2001-000405	R-CARBON;180OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R3A03	2001-000793	R-CARBON;47OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R3A04	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R3A05	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R3A06	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R3A07	2001-000458	R-CARBON;2.2OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R3A08	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R3A09	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R3A10	2001-000241	R-CARBON;1.5KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R3A11	61048-177-333	R-CARBON;RD 1/8 T 333-J	(TSEC LOCAL)
R3A12	2001-000405	R-CARBON;180OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R3A13	2001-000645	R-CARBON;330KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R3A16	2001-000331	R-CARBON;12KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R3A17	2001-000802	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R3A18	2001-000718	R-CARBON;4.3KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R3A19	2001-000221	R-CARBON;1.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R3A20	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R3A24	2001-000454	R-CARBON;2.2MOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R3A26	2001-000878	R-CARBON;6.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)

Loc. No	New Part No	Description and Specification	Remark
R3A27	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R3A28	2001-001015	R-CARBON;9.1KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R3A29	2001-000613	R-CARBON;3.9KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R3A30	2001-000613	R-CARBON;3.9KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R3A31	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R3A32	2001-000221	R-CARBON;1.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
XT301	B1280-0169	CRYSTAL;4.433619MHZ HC-49/U-S 15PPM SERIES TYPE	
XT302	64539-012-009	CRYSTAL;3.579545 HC/49U(8PF) TAPG	
I/O PARTS			
AV1	AC37-22001U	JACK-PIN DOUBLE;DSP-8906,PI3.5,2P,A/V MONO,- (REC OPTION)	(TSEC LOCAL)
AV2	AC37-22001U	JACK-PIN DOUBLE;DSP-8906,PI3.5,2P,A/V MONO,-	(TSEC LOCAL)
C401	2401-001975	C-AL;47UF,20%,16V,GP,5X11MM,5,TP	(TSEC LOCAL)
C402	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C403	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C404	2401-001975	C-AL;47UF,20%,16V,GP,5X11MM,5,TP	(TSEC LOCAL)
C405	2401-000369	C-AL;100UF,20%,6.3V,GP,6.3X11,5,-	(TSEC LOCAL)
C408	2401-001355	C-AL;470UF,20%,10V,GP,8X11.5,5MM,	(TSEC LOCAL)
C409	2401-001355	C-AL;470UF,20%,10V,GP,8X11.5,5MM,	(TSEC LOCAL)
C410	2202-000781	C-CERAMIC,MLC-AXIAL;100PF,10%,50V,Y5P,3.5X19,-,T	(TSEC LOCAL)
C411	2401-001250	C-AL;4.7UF,20%,35V,GP,4X5,5,TP	(TSEC LOCAL)
C413	2202-000781	C-CERAMIC,MLC-AXIAL;100PF,10%,50V,Y5P **(REC OPTION)**	(TSEC LOCAL)
C414	2201-000936	C-CERAMIC,DISC;330PF,5%,50V,SL,5X3,5,TP **(REC OPTION)**	(TSEC LOCAL)
C415	2202-000781	C-CERAMIC,MLC-AXIAL;100PF,10%,50V,Y5P **(REC OPTION)**	(TSEC LOCAL)
C416	2401-001975	C-AL;47UF,20%,16V,GP,5X11MM,5,TP	(TSEC LOCAL)
C420	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C421	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V **(REC OPTION)**	(TSEC LOCAL)
C422	2401-001975	C-AL;47UF,20%,16V,GP,5X11MM,5,TP	(TSEC LOCAL)
C460	2202-000781	C-CERAMIC,MLC-AXIAL;100PF,10%,50V,Y5P,3.5X19,-,T	(TSEC LOCAL)
D401	0401-000101	DIODE-SWITCHING;1N4148,100V,200MA,500MW,4NS,DO	
L402	2701-000131	INDUCTOR-AXIAL;15UH,5%,2.4X3.4MM	(TSEC LOCAL)
L403	2701-000181	INDUCTOR-AXIAL;33UH,5%,2.4X3.4MM (REC OPTION)	(TSEC LOCAL)
L404	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
Q401	0504-000142	TR-DIGITAL;KSR2001,PNP,300MW,4.7K-4.7K,TO	
Q402	0501-000303	TR-SMALL SIGNAL;KSA733-Y,PNP,250MW,TO-92,-,120	
Q403	0501-000398	TR-SMALL SIGNAL;KSC945-Y,NPN,250MW,TO-92,TP,12	
Q404	0501-000303	TR-SMALL SIGNAL;KSA733-Y,PNP,250MW,TO-92,-,120	
Q406	0504-000203	TR-DIGITAL;KSR1004,NPN,300MW,47K-47K,TO-9	
R401	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R403	2001-000241	R-CARBON;1.5KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R404	2001-000857	R-CARBON;560OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R405	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R406	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R407	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R408	2001-000036	R-CARBON;330OHM,5%,1/4W,AA,TP,2.4X6.4MM	(TSEC LOCAL)
R409	2001-000702	R-CARBON;39KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R410	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R412	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R413	2001-000904	R-CARBON;620OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R414	2001-000969	R-CARBON;75OHM,5%,1/8W,AA **(REC OPTION)**	(TSEC LOCAL)
R419	2001-000508	R-CARBON;220KOHM,5%,1/8W,AA **(REC OPTION)**	(TSEC LOCAL)
R450	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	(TSEC LOCAL)
R451	2001-000554	R-CARBON;270OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
RF1	AC40-20100C	RF-MODULATOR;ENC479N8,PAL-BG/DK	(TSEC LOCAL)

Loc. No	New Part No	Description and Specification	Remark
670	**DO NOT ORDER**	**ASSY-FUNCTION**	**(S.N.A)**
C701	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C702	2401-001893	C-AL;100UF,20%,16V,-,6.3X7MM,5,TP	(TSEC LOCAL)
C703	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,3.5X19,-,TP	(TSEC LOCAL)
C704	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
C705	2202-000780	C-CERAMIC,MLC-AXIAL;100NF,+80-20%,50V,Y5V,3.5X19	(TSEC LOCAL)
CN701	3710-000545	CONNECTOR-SOCKET;20P,1R,1.5MM,STRAIGHT,SN	
CN702	3710-000545	CONNECTOR-SOCKET;20P,1R,1.5MM,STRAIGHT,SN	
D701	0401-000101	DIODE-SWITCHING;1N4148,100V,200MA,500MW,4NS,DO	
D702	0401-000101	DIODE-SWITCHING;1N4148,100V,200MA,500MW,4NS,DO	
D703	0401-000101	DIODE-SWITCHING;1N4148,100V,200MA,500MW,4NS,DO	
D704	0401-000101	DIODE-SWITCHING;1N4148,100V,200MA,500MW,4NS,DO	
D706	0401-000101	DIODE-SWITCHING;1N4148,100V,200MA,500MW,4NS,DO	
LD701	0601-000497	LED;ROUND,GRN,3MM,565NM	
LD702	0601-000497	LED;ROUND,GRN,3MM,565NM	
LD703	0601-000497	LED;ROUND,GRN,3MM,565NM	
LD704	0601-000497	LED;ROUND,GRN,3MM,565NM	
LD705	62309-110-340	LED;GL-3HD7/GL3HD8 (REC OPTION)	
LD706	0601-000497	LED;ROUND,GRN,3MM,565NM	
LD707	0601-000497	LED;ROUND,GRN,3MM,565NM	
LD708	0601-000497	LED;ROUND,GRN,3MM,565NM	
LD709	0601-000497	LED;ROUND,GRN,3MM,565NM	
LD710	0601-000497	LED;ROUND,GRN,3MM,565NM	
LD711	0601-000497	LED;ROUND,GRN,3MM,565NM	
LD712	0601-000497	LED;ROUND,GRN,3MM,565NM	
Q701	0504-000203	TR-DIGITAL;KSR1004,NPN,300MW,47K-47K,TO-9	
Q702	0504-000203	TR-DIGITAL;KSR1004,NPN,300MW,47K-47K,TO-9	
Q703	0504-000203	TR-DIGITAL;KSR1004,NPN,300MW,47K-47K,TO-9	
Q704	0504-000203	TR-DIGITAL;KSR1004,NPN,300MW,47K-47K,TO-9	
R701	2001-000362	R-CARBON;150OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R702	2001-000362	R-CARBON;150OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R703	2001-000362	R-CARBON;150OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R704	2001-000924	R-CARBON;680OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R705	2001-000362	R-CARBON;150OHM,5%,1/8W,AA,TP **(REC OPTION)**	(TSEC LOCAL)
R706	2001-000362	R-CARBON;150OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R707	2001-000362	R-CARBON;150OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R708	2001-000362	R-CARBON;150OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R709	2001-000362	R-CARBON;150OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R710	2001-000362	R-CARBON;150OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R711	2001-000362	R-CARBON;150OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R712	2001-000362	R-CARBON;150OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R713	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R714	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R715	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R716	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
R717	2001-000362	R-CARBON;150OHM,5%,1/8W,AA,TP,1.8X3.2MM	(TSEC LOCAL)
RM701	B1294-0076	MODULE-REMOCON;GP1U281R/SHARP 38KHZ	
SW701	3404-000240	SWITCH-TACT;15V,20MA,160+-50GF,6X6MM,-	
SW702	3404-000240	SWITCH-TACT;15V,20MA,160+-50GF,6X6MM,-	
SW703	3404-000240	SWITCH-TACT;15V,20MA,160+-50GF,6X6MM,-	
SW704	3404-000240	SWITCH-TACT;15V,20MA,160+-50GF,6X6MM,-	
SW705	3404-000240	SWITCH-TACT;15V,20MA,160+-50GF,6X6MM,-	
SW706	3404-000240	SWITCH-TACT;15V,20MA,160+-50GF,6X6MM,-	
SW707	3404-000240	SWITCH-TACT;15V,20MA,160+-50GF,6X6MM,-	

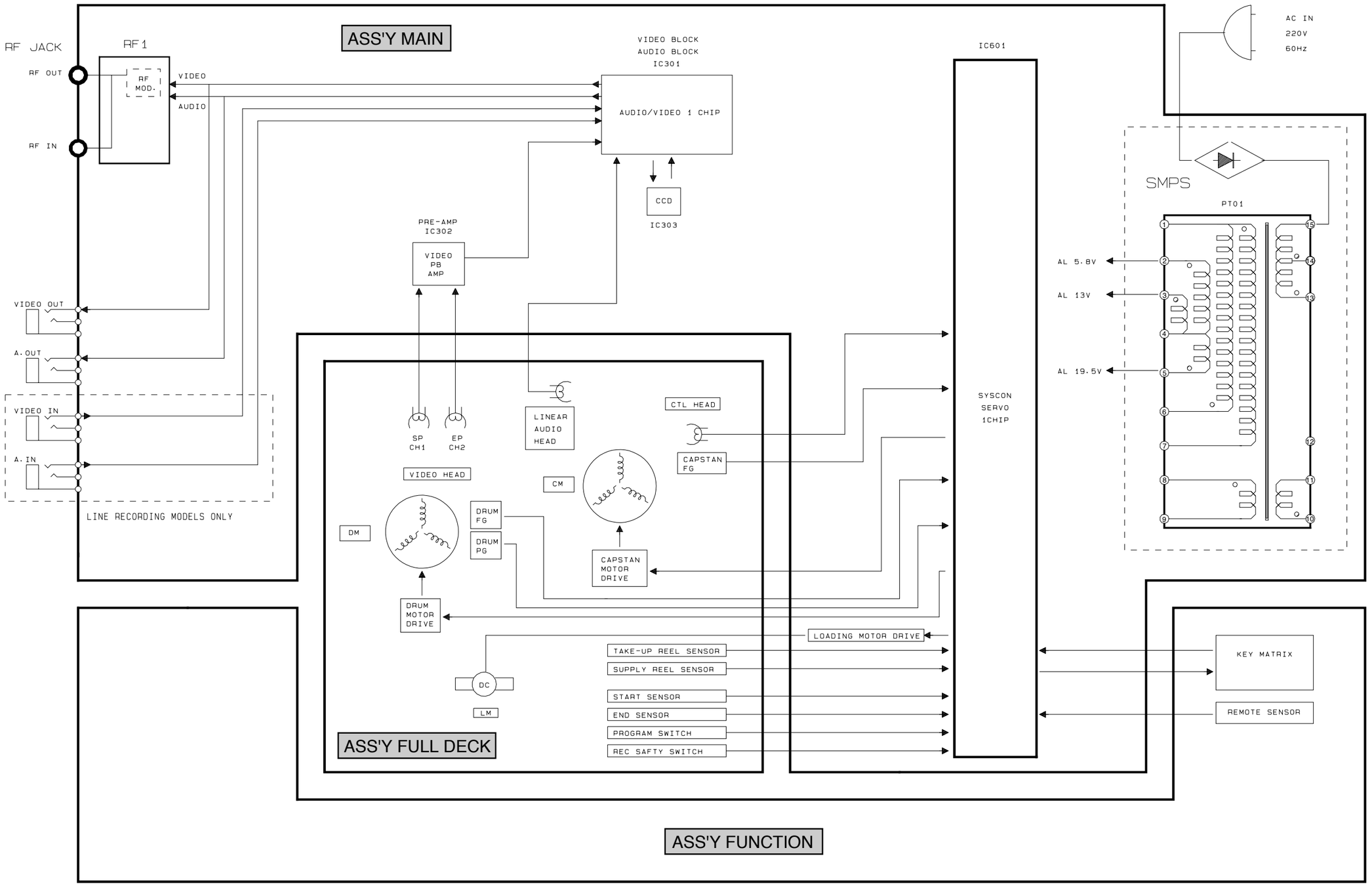
Loc. No	New Part No	Description and Specification		Remark
SW708	3404-000240	SWITCH-TACT;15V,20MA,160+-50GF,6X6MM,-	**(REC OPTION)**	
SW709	3404-000240	SWITCH-TACT;15V,20MA,160+-50GF,6X6MM,-		
SW710	3404-000240	SWITCH-TACT;15V,20MA,160+-50GF,6X6MM,-		
SW711	3404-000240	SWITCH-TACT;15V,20MA,160+-50GF,6X6MM,-		
SW712	3404-000240	SWITCH-TACT;15V,20MA,160+-50GF,6X6MM,-		
	AC93-10042K	**ASSY-REMOCON**		**(TSEC LOCAL)**
	64042-0165-00	DOOR-BATTERY;ABS94HB T2 D/GRY PR-3209		(TSEC LOCAL)
CT01	2401-001954	C-AL;4.7UF,20%,50V,GP,5X11MM,5,TP		(TSEC LOCAL)
CT02	2203-000239	C-CERAMIC,CHIP;100PF,5%,50V,NPO,2012,-,TP		(TSEC LOCAL)
CT03	2203-000239	C-CERAMIC,CHIP;100PF,5%,50V,NPO,2012,-,TP		(TSEC LOCAL)
CT04	2203-000199	C-CERAMIC,CHIP;100NF,+80-20%,50V,Z5U,2012,-,T		(TSEC LOCAL)
ICT01	AC09-12014C	IC-MCU;KS51810-76,QFP,V-PAL		
LDT01	0601-000498	LED-IR;ROUND,5MM,150MW,5V,940NM,BK		(TSEC LOCAL)
QT01	0501-000534	TR-SMALL SIGNAL;2SC2412K,NPN,200MW,SOT-23,TP,1		(TSEC LOCAL)
RT01	2007-000483	R-CHIP;1OHM,5%,1/10W,DA,TP,2012		(TSEC LOCAL)
XT01	64539-102-311	CERAMIC RESONATOR;CSB455EBL/KBR455BKTL		

Note : ASS'Y REMOCON is only SV-A10G/CIS, SVR-17A.
Please, refer to the separate information for the other models combind.

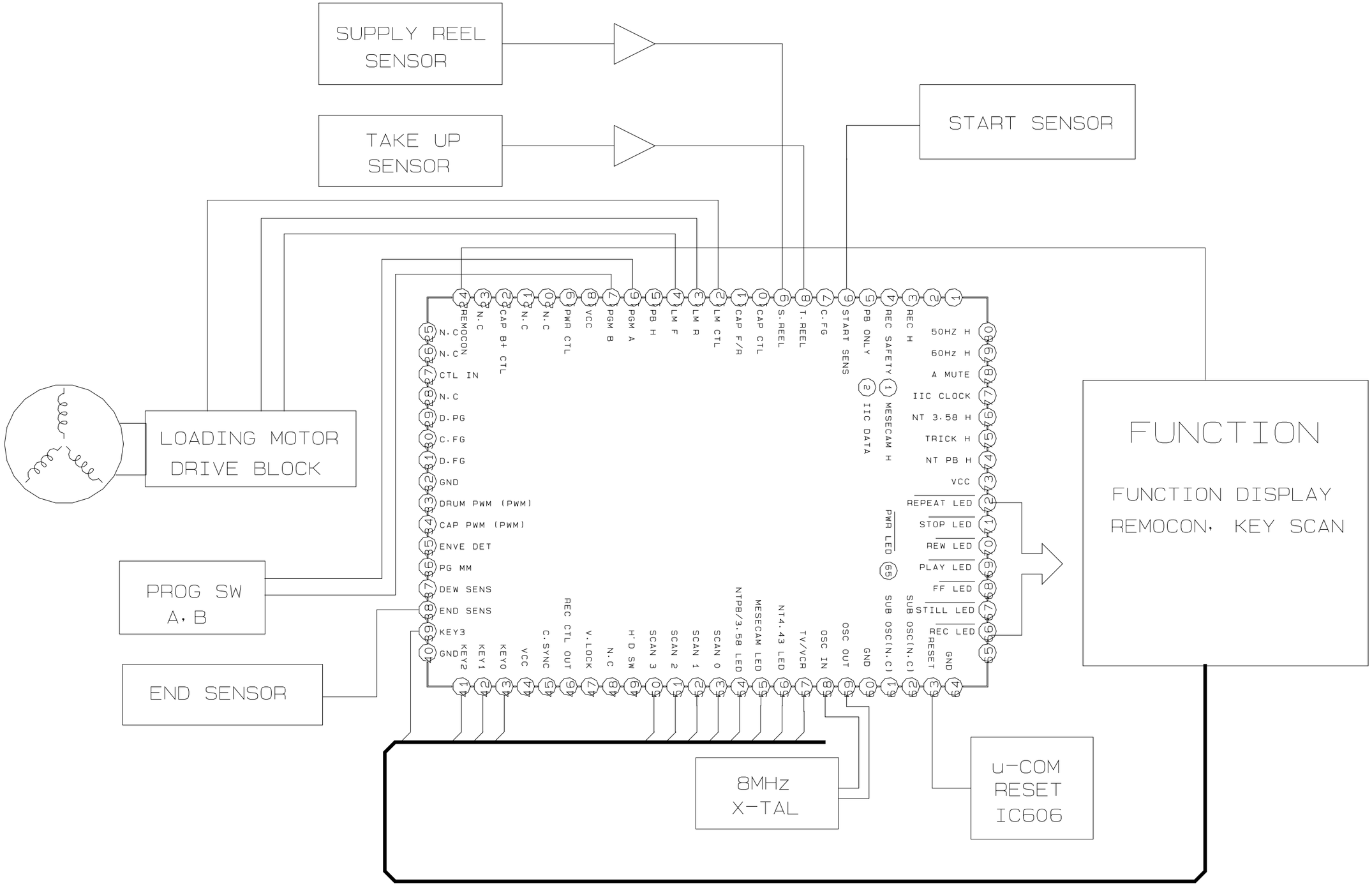
8. Block Diagrams

		Page
8-1	Overall Block Diagram	8-2
8-2	System Control	8-3
8-3	Video	8-4

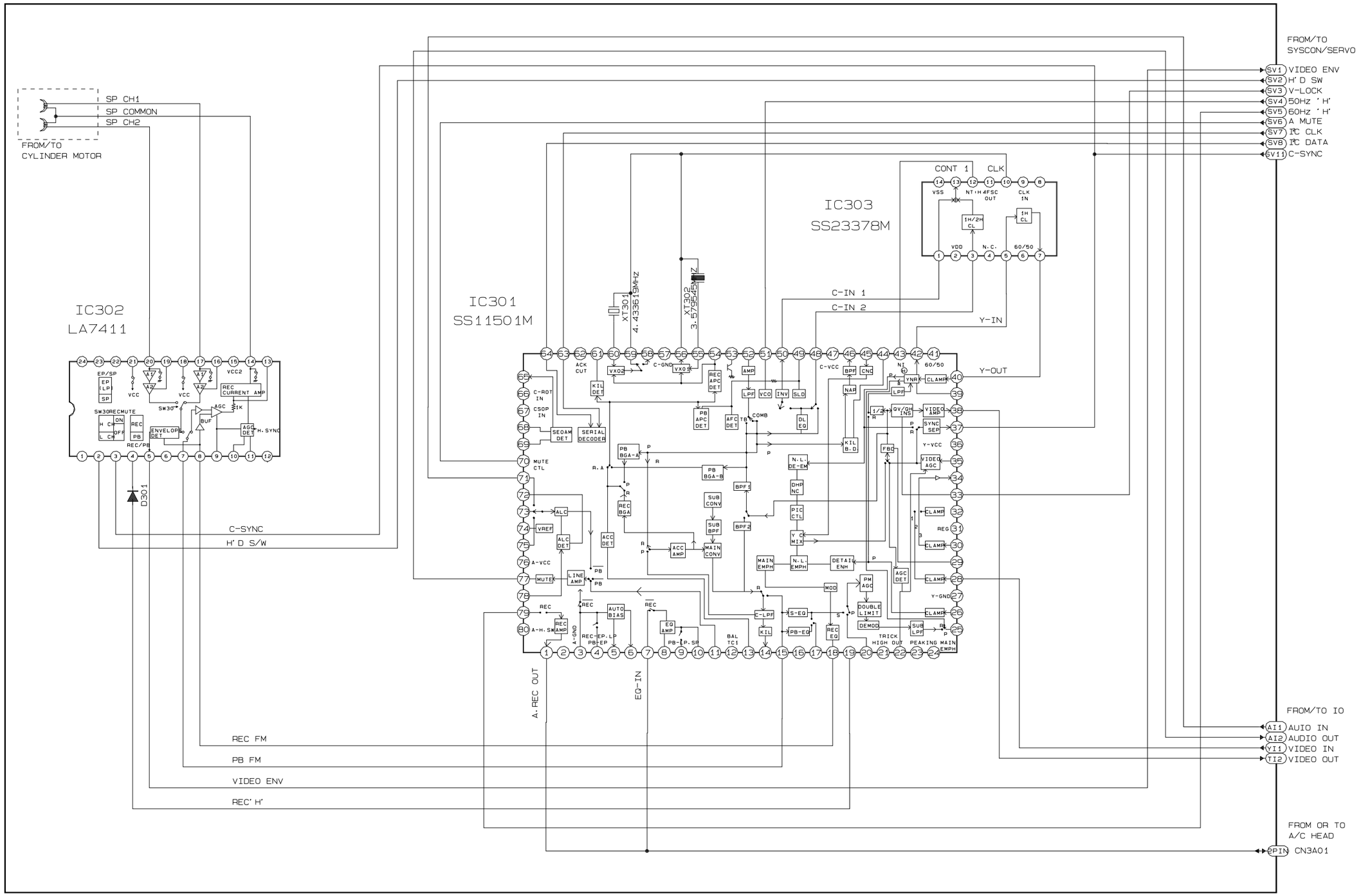
8-1 Overall Block Diagram



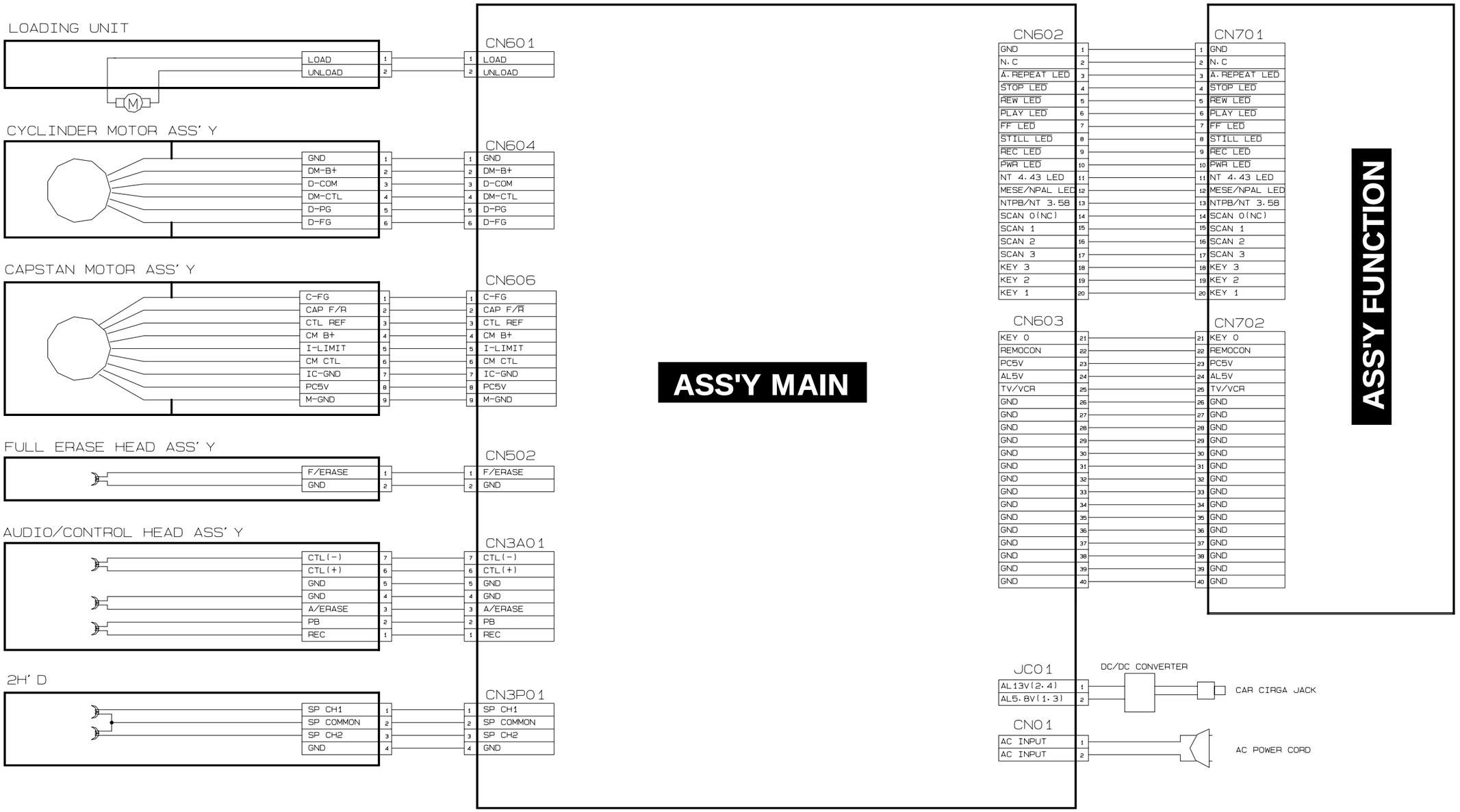
8-2 System Control/Servo



8-3 Audio/Video



10. Wiring Diagram



11. Schematic Diagrams

Page

◆ Block Identification of Main PCB - - - - - - - - - - - - - - - 11-2

11-1 S.M.P.S/Power - 11-3

11-2 System Control/Servo - - - - - - - - - - - - - - - - - - - 11-4

11-3 Audio/Video - 11-5

11-4 I/O - 11-6

11-5 Function - 11-7

11-6 Remote-Control - 11-8

Note

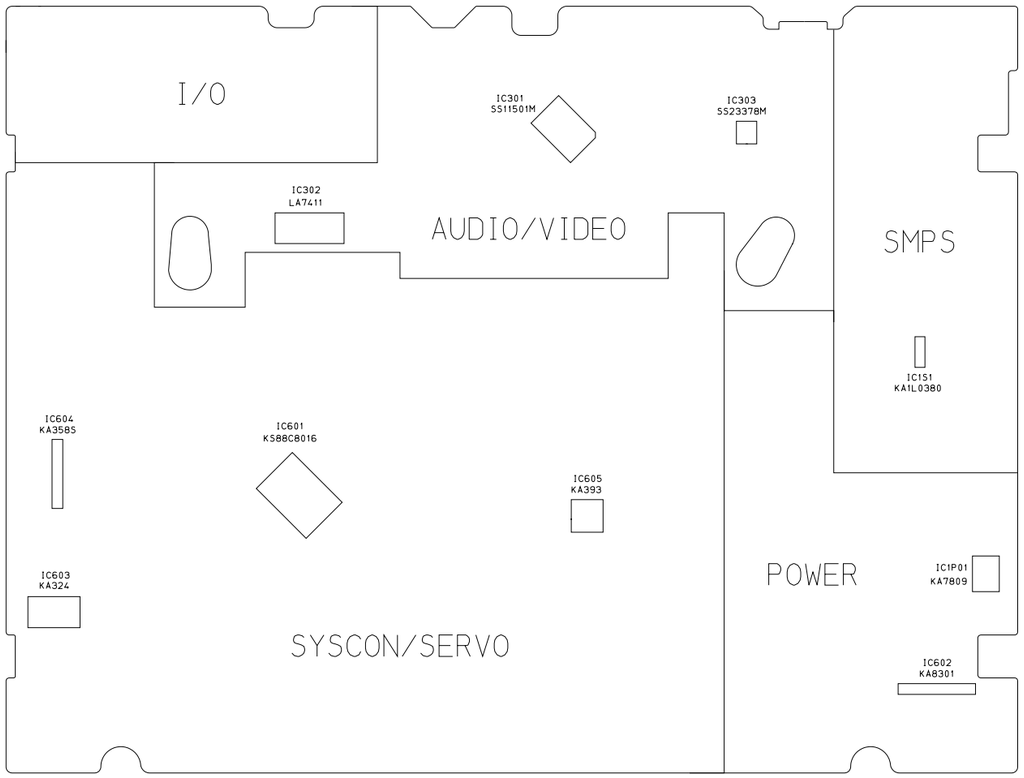
For schematic Diagram
- Resistors are in ohms, 1/8W unless otherwise noted.
- Circled numbers refer to waveforms.

Special note :
Most semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the “electrostatically sensitive (ES) devices” section of this service manual.

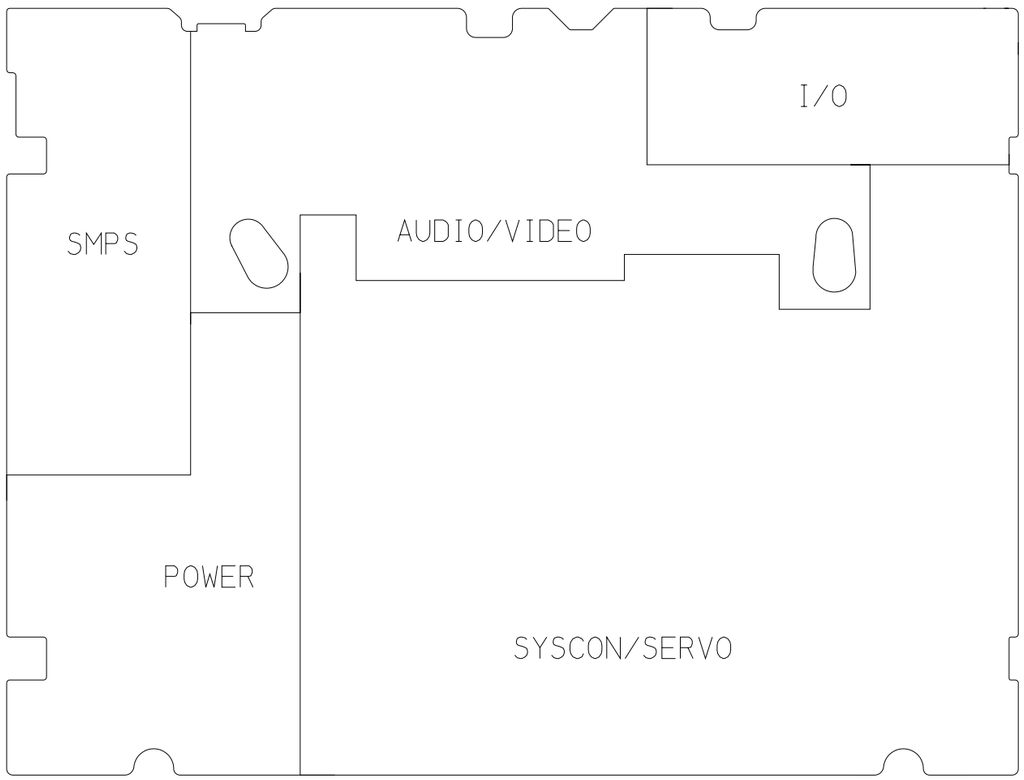
Note :
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list (may be slightly different or amended since this drawing was prepared).

Important safety notices :
Components identified with the mark ⚠ have the special characteristics for safety. When replacing any of these components. Use only the same type.

◆ Block Identification of Main PCB

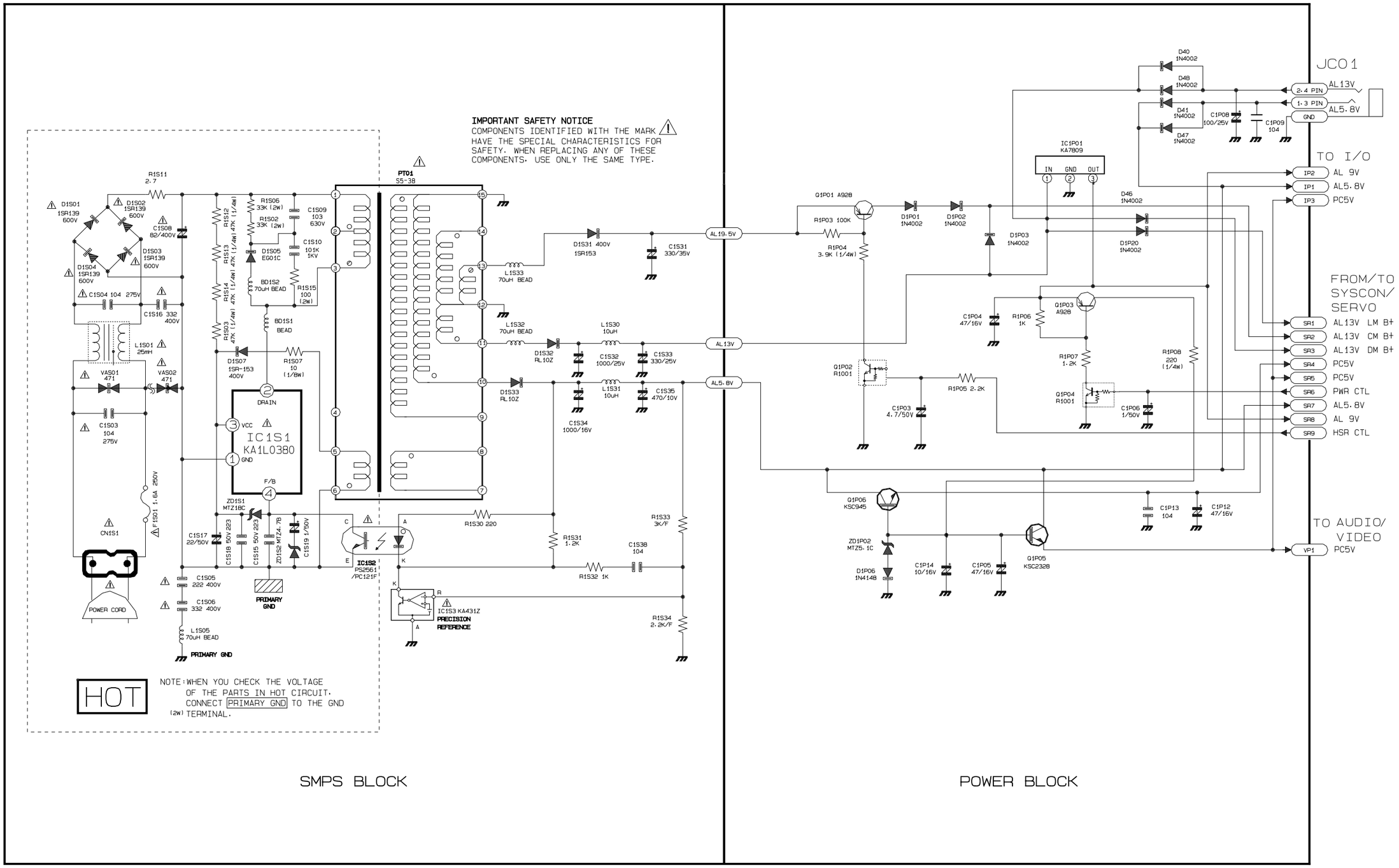


(Component Side)



(Conductor Side)

11-1 S.M.P.S/POWER



11-2 System Control/Servo

CYLINDER SPEED CONTROL
CYLINDER PHASE CONTROL
CAPSTAN SPEED CONTROL
CAPSTAN PHASE CONTROL

SYSCON/SERVO ONE CHIP

IC604 KA358S

IC605 KA393

IC603 KA324

IC601 KS88C8016

IC602 KA8301

IC606 MN1280-Q

CN604
1 GND
2 DM-B+
3 D-COM
4 DM-CTL
5 D-PG
6 D-FG
FROM/TO CYLINDER MOTOR ASS'Y

CN606
1 C-FG
2 CAP F/R
3 CTL REF
4 CM B+
5 I-LIMIT
6 CM CTL
7 IC-GND
8 PC5V
9 M-GND
FROM/TO CAPSTAN MOTOR ASS'Y

CN601
1 LOAD
2 UNLOAD
TO LOADING MOTOR ASS'Y

FROM/TO AUDIO/VIDEO
SV1 VIDEO ENV
SV2 H'D SW
SV3 V-LOCK
SV4 50Hz H'
SV5 60Hz H
SV6 A.MUTE
SV7 I'C CLK
SV8 I'C DATA
SV9 CTL -
SV10 CTL +
SV11 C-SYNC

TO I/O
SI1 TV/VCR

FROM/TO SMPS/POWER
SR1 LM B+
SR2 CM B+
SR3 DM B+
SR4 PC5V
SR5 PC5V
SR6 AL5.8V
SR7 PWR CTL
SR8 AL9V
SR9 HSR CTL

CN603
FROM/TO FUNCTION CN701

CN602
FROM/TO FUNCTION CN702

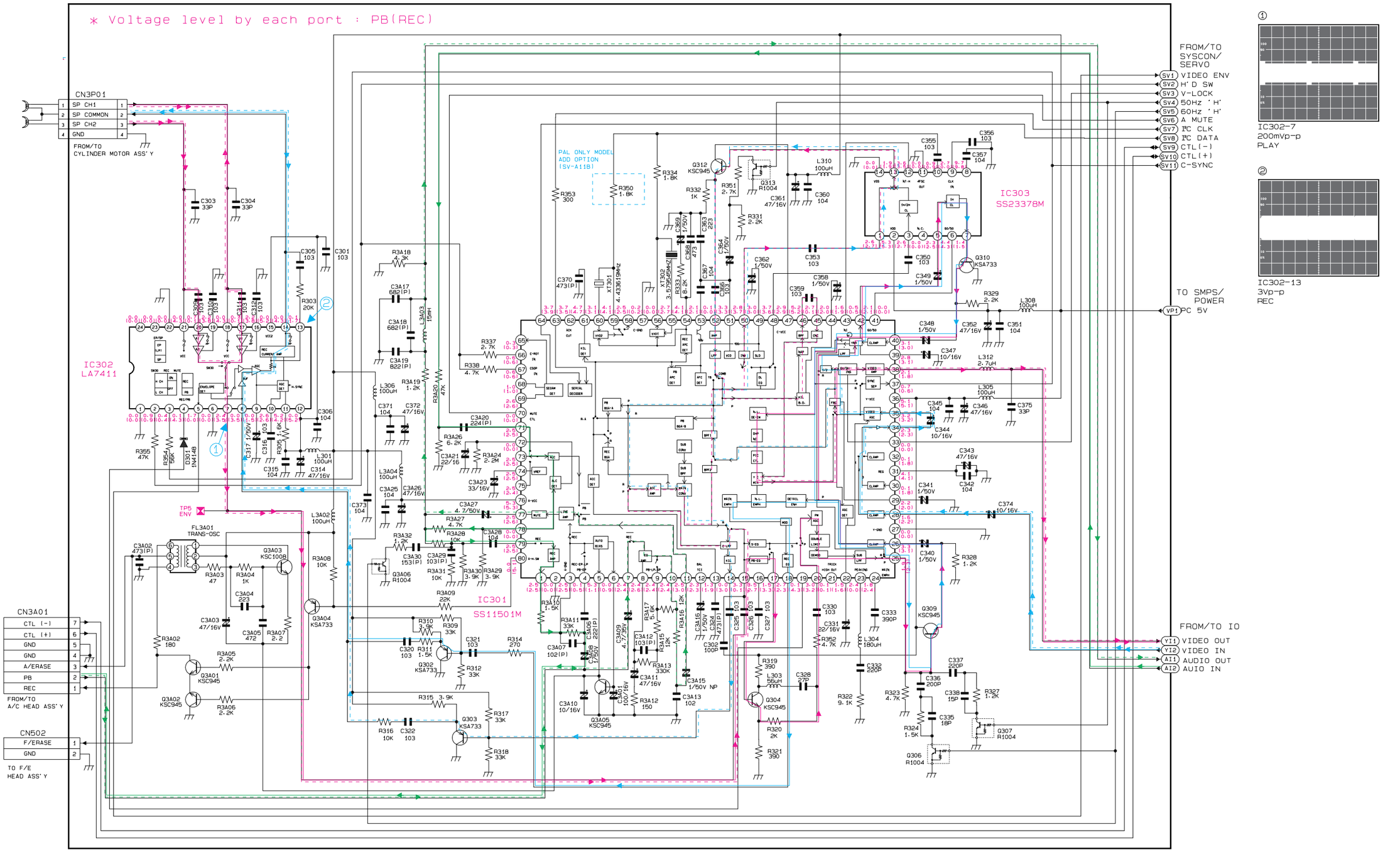
:REC OPTION

Voltage from IC PORT : PB/(REC)

① IC601-27 5Vp-p PB
② IC602-29 4Vp-p PB
③ IC602-30 5Vp-p PB
④ IC602-31 4.1Vp-p PB
⑤ IC602-33 5Vp-p PB
⑤ IC602-34 5Vp-p PB
⑦ IC603-13 3.4Vp-p PB
⑧ IC605-3 1.8Vp-p PB

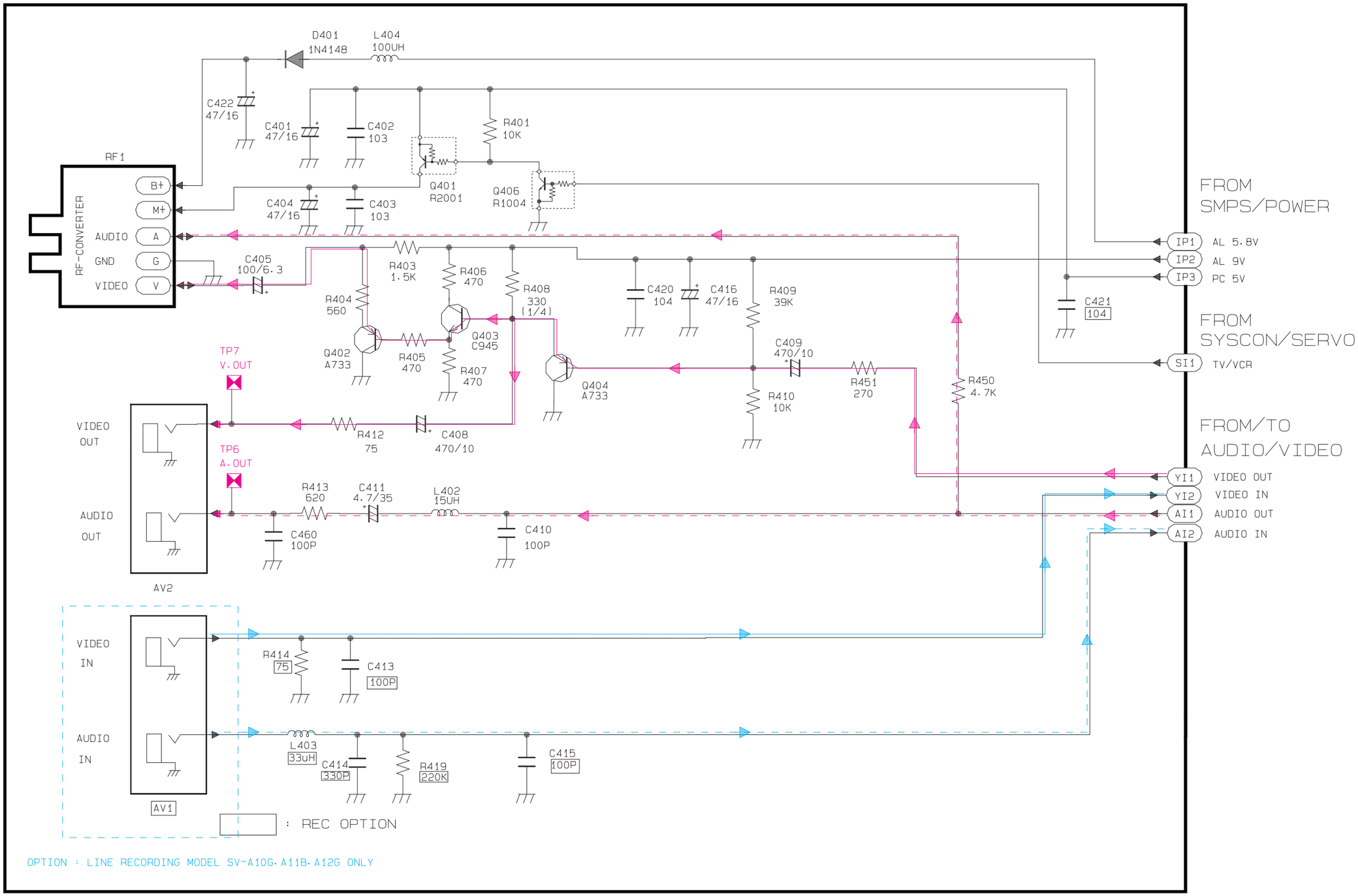
11-3 Audio/Video

PB Y PROCESS
PB C PROCESS
REC Y PROCESS
REC C PROCESS
PB AUDIO PROCESS
REC AUDIO PROCESS

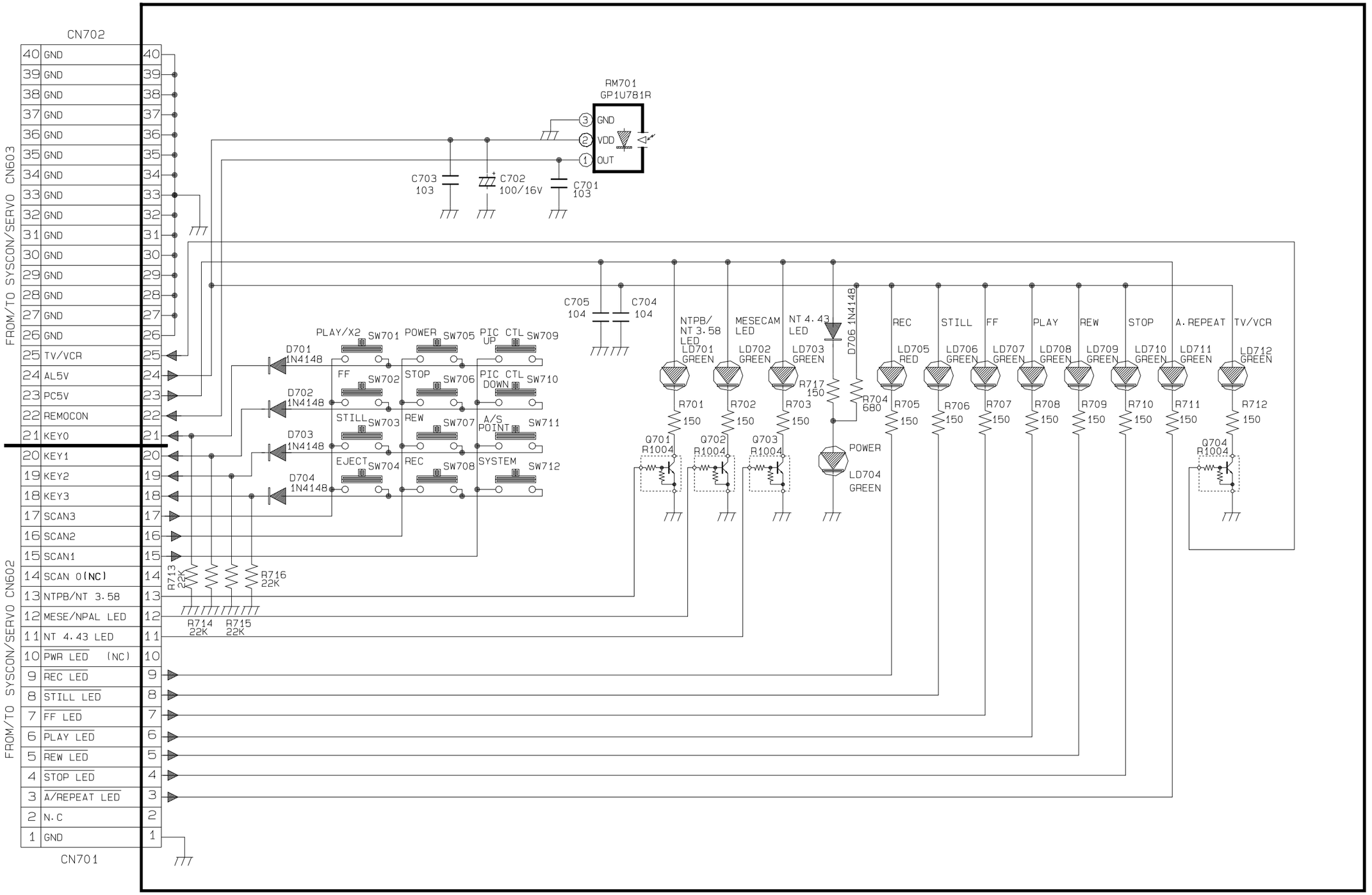
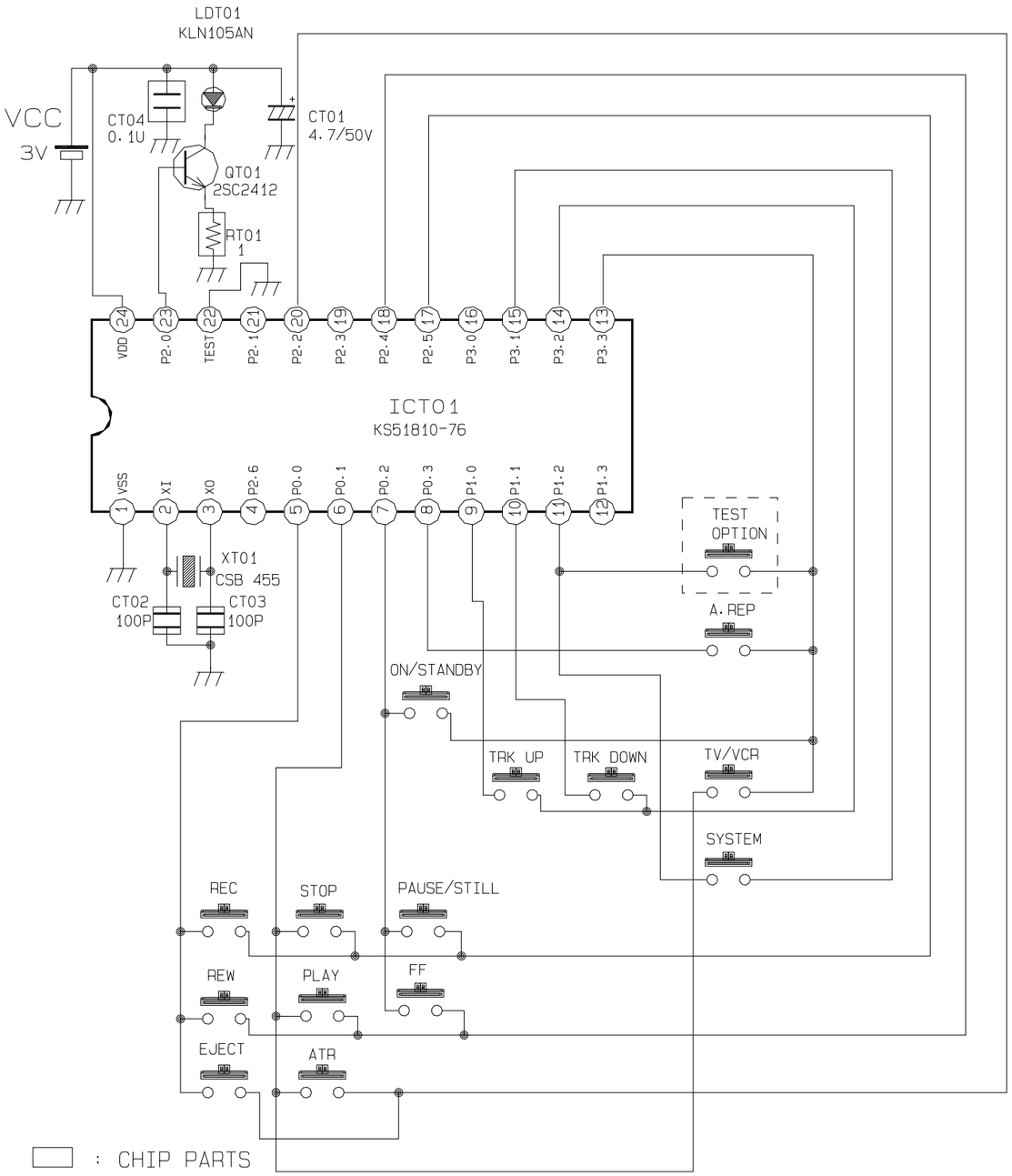


11-4 I/O

PB VIDEO PROCESS
PB AUDIO PROCESS
REC VIDEO PROCESS
REC AUDIO PROCESS



11-5 Function



11-6 Remote-Control